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PRESIDENTIAL ADDRESS

PSYCHIATRIST, MEDICINAE DOCTOR¹

ROBERT H. FELIX, M.D.

This week will draw to a close my efforts to serve you as the eighty-ninth President of our Association. Needless to say, one approaches the end of such an exciting professional experience with mixed feelings. I venture that every President, however hard he has tried to render the best that is in him during his fleeting year, is virtually always bound to conclude that his best was not enough. At the same time, the experience engenders in him a new affection for his fellow psychiatrists who have so honored him and he will resolve anew to continue to serve them with redoubled efforts in other capacities. I am no exception to these phenomena.

There is about our Association, or so it seems to me, a special quality of commitment to the simple proposition that psychiatry can do something for the welfare of mankind. As President I have sensed this anew in working with members of our staff whose diligence I venture can only be explained in terms of their own sense of purposefulness in helping us to achieve our goals. My ear picks up the vital theme of purpose in the scores of committee deliberations in which a President participates. One detects it in the policy statements that the Association issues from time to time in the public interest. Its spirit is implicit in our avoidance, as an Association, of positions that would preserve ancient tradition and privilege in the face of changing social needs. It is evident in our openness and lack of defensiveness in our relations with the public and in our willingness over the long view to let our collective record speak in rectification of the incidental embarrassment. In a word, our Association is an instrument for the implementation of the

dedication that is in us. Its good works are on the record for all to see. Its potential for greater things to come is there for us to make the most of.

Later this week the mantle of my office will fall on the capable shoulders of Dr. Walter Barton. All of you, I am certain, share my own deep sense of comfort that our affairs will be guided by so able and devoted a physician and servant of psychiatry in the coming year. As for me, let me say as prelude to my parting words in this Address, that if I were proud to be a psychiatrist before you so honored me, my pride in being one of you has multiplied this past year. To all of you let me extend my humble thanks and with it my resolution to serve you as you have need of me with all the energy I can muster in years to come.

It is obvious, even to the casual observer, that there have been great advances in our field in recent years. No longer can we plead abysmal lack of knowledge or attribute the load of chronic patients in our hospitals to our great dearth of effective techniques for their management and treatment. Our knowledge has vastly expanded, even though we cry out for more and push impatiently and ever more vigorously at the frontiers to open up new vistas and add to our understanding of the many and varied phenomena which contribute to mental illness and to mental health. None of us here would say that we know more than a small fraction of what we must know—the uncharted areas are much larger than those we have even sketchily mapped. Now in this 7th decade of the 20th century, and the 117th year of our Association, we look both with hope and expectation to the not too distant future when scientists of many disciplines and skills will supply the answers we need—when out of dissonance will come harmony, out of confusion will come order, and that which is dark shall be illuminated.

¹ Presidential Address delivered at the 117th Annual Meeting, American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

The findings to date and the hypotheses they have made possible are breath-taking ; and if, on testing, even a portion of these result in well defined theory, our world of psychiatry will look like nothing our colleagues of earlier generations would have dreamed possible. Moreover, even those hypotheses which cannot themselves be validated may and frequently do lead to new hypotheses based on the very data which were their undoing.

Many of these discoveries will not only be exciting and challenging but undoubtedly will rudely shake some of our presently held and cherished concepts. Such an experience is, at the least, disturbing, but it should not be devastating. Many of these concepts were brilliant deductions arrived at as a result of searching observation. They are the best we have and we find that they serve us. None of us would say that they are immutable truths nor the final answer. Many of them are quite probably pieces of a greater whole which will become manifest to us when more of the components have been assembled. With each new verified discovery we approach a little closer to the whole truth, and this, in the final analysis, is what we all seek. For truth is the ultimate reality, the *vera lux*.

It is, moreover, auspicious that our field is becoming attractive to workers in disciplines who formerly felt they could find no foothold or challenge in problems concerning the cause and treatment of the mentally ill. With the new information that has been acquired in the past few years, they now find their skills and techniques can be applied to solving the unanswered questions, and they are devoting themselves in increasing numbers to research on problems never before attacked from these points of view. Thus we see chemists studying the nucleic acids in relation not only to nervous system function as usually conceived, but also in relation to such psychological mechanisms as memory. The possible role of transmethylation in mental health and disease is beginning to be examined. The possible role of epinephrine and norepinephrine and their metabolism in mental health and mental illness has provided insights and opened new avenues to investigation. The interesting and highly specialized dispersal of the biogenic

amines within the nervous system, the action of drugs upon them, and their correlation with behavior is a large and exciting field only recently opened up. Physiologists are adding to our knowledge of the function of the limbic system and its significance in thought and behavior, both normal and pathological. The revolutionary concept of the graded response of the neuron, and the findings regarding the transmission of the nerve impulse across the synaptic junction are inevitably modifying and amplifying our understanding of some of the physiological bases of human behavior. The important field of psychopharmacology, that borderland between chemistry, physiology and psychology, is yielding up secrets which are promptly being applied to the treatment of the mentally ill with dramatic results both upon the patients themselves and upon the therapeutic milieu, including the attitudes of the treatment personnel. The social and other behavioral sciences are being vigorously explored and much of the findings of these scientists are of critical importance in the understanding of our patients.

The theoretic constructs which underpin psychodynamic theory are undergoing critical re-examination by a variety of disciplines to the end that its contributions to psychiatric principles and treatment techniques will rest on more sound foundations. Due to the rapidly improving state of our knowledge in all areas, we are becoming better positioned to develop further our field of medicine for meeting the tremendous demands being made upon us. So much for a few of the areas of investigation which are contributing new insights to understanding the mental illnesses. Already we can see heartening and positive results. Each year, for the past 5 years the mental hospital population in the United States has declined, reversing a trend of over a century's duration. Between 1955 and 1960, resident patients in our hospitals decreased by 4.2%, or over 28,000, from a high of 560,000. Even more dramatic is what has happened to our patient population projections. Projecting the trend for the 11 years 1944 through 1955, the expected patient load for 1960 was over 622,000. The actual figure of 535,332 patients is nearly 86,000 or 14% below the expected figure. This drop occurred despite an

average annual increase in admissions of over 6%, due to the fact that separations from the hospitals have exceeded admissions because of a steady increase of about 10% per year in the number of net releases.

The dramatic changes in our hospital population as described by these gross figures tell only part of the story, of course. There is occurring a change in the type of patients in our hospitals, and, because of this, a change in the types of patients seen in extramural settings, both public and private. Many of the chronic patients traditionally seen in our institutions are disappearing. With the new therapies both psychological and pharmacological, and with the innovations in hospital ward administration, there is more likelihood of effecting early and favorable change in the clinical condition of the patients under our care. The result has been more releases and an increasing emphasis on extramural care and on the importance of the community as a therapeutic resource. Accompanying this has been growing recognition of the less favorable influence of the large hospital as contrasted with the smaller one, and the therapeutic advantages of the hospital of 1000 beds or less.

General public acceptance of this philosophy—and it cannot come too soon for the good of the mentally ill—will be tantamount to a national decision to eliminate so far as we can the prolonged hospitalization and institutionalization of the mentally ill. Communities will do what they long since should have done, namely, provide the facilities and services that will forestall hospitalization whenever possible and give the convalescent mentally ill every chance to achieve maximum psychological and social recovery.

This will mean, among other things, that the elderly will not be hospitalized unless they are in fact mentally ill and actually need the kind of treatment that the psychiatric hospital can best provide. We are now well aware that the elderly may develop the same psychiatric disorders as those who are younger, and that they often respond as satisfactorily to treatment. Those who are suffering from depressions, neuroses or other illnesses are as entitled to energetic and intensive therapy as are those who are younger; and this therapy can and should

be administered outside of an institution, wherever possible.

These developments in psychiatry will inevitably lead to broadening and diversifying our activities whether we practice in private office, clinic or hospital. We have much more knowledge to put to use and a great deal more will be at our disposal in the future. This enhanced armamentarium and these responsibilities will require of each of us not merely a broad scientific and medical background, but also current knowledge concerning many aspects of medicine which will become more and more essential for the proper management of clinical problems. This means that not now or ever can we allow our medical skills to atrophy, if we are to keep abreast of our field as it develops and thereby give our patients that to which they are entitled—the best that can be obtained.

All of this is to say that a psychiatrist must be a good physician first and always, and that one cannot be a good psychiatrist however profound his knowledge of psychodynamics or however great his mastery of psychotherapy, unless this prerequisite is first satisfied. Being a good physician implies more than knowing and being able to apply a variety of technical procedures. It means first of all an attitude toward the sick, and one's patients in particular, which amounts to a total commitment to one's calling and to those under one's care. It means continual study and professional improvement to the end that patients can be better served. It means retaining and using a variety of basic medical skills which any patient has a right to expect of any physician regardless of his specialty. To restrict medical thinking and awareness exclusively to one special field is to become a technician, and a physician is much more than a technician.

An examination of the concept of psychiatry and psychiatrists held by both our medical colleagues and the public at large is very revealing, and gives helpful clues to understanding some of the attitudes toward us.

Psychiatry is defined as "the medical specialty that deals with mental disorders" (1); as "a special branch of medical science dealing with causes, symptoms, course and

treatment of disorders and diseases of the mind"(2); and as "the science which deals with the psychopathological aspects of human biology"(3).

The psychiatrist, we learn, must be a physician, a doctor of medicine licensed, or qualified to be licensed, to practice the healing arts who possesses special skills in the area of mental and emotional diseases and disorders. With this formulation all of us would agree. But what does it imply? Quite simply that the psychiatrist, being a physician, is required to possess and maintain competence in those skills which any physician must have, regardless of how general or restricted the physician's field of practice may be.

But what is a physician? What does the public think he is; and what is expected of him? He is described as "a person skilled in physic of the art of healing. One duly authorized to treat disease . . . ; a doctor of medicine . . ."(1).

This, then, is what we are. Practitioners of medicine, qualified as possessing the knowledge and skill to treat the sick. A recent inspection of my own license revealed that I am authorized to practice medicine and surgery in my state. The license of each of us either so states explicitly or such authority is implicit in the wording. And this is as it should be. It is a concept all of us were taught and all of us accept in principle. W. A. White(4), in his Presidential Address, in 1925, said, "Psychiatry . . . demands for its background the whole of medicine, because . . . it deals with the whole individual. . . . So the psychiatrist is a specialist in the reactions of the organism as a whole, and those reactions he cannot understand unless he knows all parts of the organism. . . . His principal medical qualification should be a broad, comprehensive, sympathetic contact with the whole field of medicine." Alan Gregg(5) addressed himself to this same concept at our Centennial Meeting in 1944. It was his opinion that a concern and current knowledge of medicine generally was essential not only for the best treatment of our patients, but also in order to "encourage observation and experiment instead of speculation."

Earlier, I said that to be a good physician one must possess more than skill in

diagnosis and treatment. One must also have developed an attitude of dedication to his calling and to those he serves. The good physician must have honor and integrity and a genuine respect and regard for his patient. He must have a deep conviction concerning the dignity of the individual and the inalienable right of every one to health. From this will have come a selfless devotion to duty and a well developed sense of public responsibility. He must be the dependable resource, the trustworthy friend, the wise counsellor, the good, discrete and skillful servant of man.

All of these attributes of character the physician must have in full measure, but in addition, there is certain technical knowledge he must also possess without regard to his type or degree of specialization.

It goes without saying, of course, that every physician can be expected to carry out a dependable general physical examination. I would go so far as to say that the physician who does not employ his stethoscope, his sphygmomanometer, his ophthalmoscope, and his percussion hammer regularly, should seriously question his capacity to make adequate diagnoses. Any physician in practice should be able to interpret the usually encountered heart and breath sounds; to identify a mass in the abdomen or breast; accurately to locate the liver margin; to diagnose a choked disc or silver wire deformity of retinal vessels; to identify tracheal tug; to diagnose accurately the presence or absence of a dorsalis pedis pulse;—to select at random a few examples of conditions that the physician be he surgeon, psychiatrist, internist, ophthalmologist or other medical practitioner, may encounter at anytime.

There are a number of emergency conditions to which any of us must be able to respond on a moment's notice. They may occur on the street, in the home next door, on the train or bus or in the hospital or office. Such conditions as massive bleeding, shock, "heart attacks," syncope, convulsions, poisoning or drug overdosage and fractures are among these. Certainly, the victim of any of these conditions has a right to expect any of us to handle such emergencies competently.

Thus far, I have spoken of what any phy-

sician should be able to do. I am particularly concerned, however, with what one group of physicians—psychiatrists—can and are doing. It is my impression that, while the situation has vastly improved since the days of Weir Mitchell (6), who complained to us 67 years ago of being unable to find either a stethoscope or an ophthalmoscope in one mental hospital where he was called in consultation, it could and should be much better than it is in many places.

It has been rather disturbing to me to learn how quickly the general medical knowledge and skills of many young psychiatrists seem to deteriorate. For a number of years, when I have visited a psychiatric training center and have been asked to talk with residents, I have asked them to identify themselves as to the length of time since their internship and the number of years they had been in residency status. I have then mentally grouped them according to whether they have been in psychiatric training more than 18 months or less. In the course of my discussion, I have posed a series of questions to them. Representative of these questions are the following :

One of your outpatients who is a diabetic and on insulin has just been brought in unconscious. What would you do and why ?

You have called a cardiologist in consultation. He reports that he finds A-2 greater than P-2. What is he talking about and what may it mean ?

You notice unilateral ptosis on examination of a patient. On closer examination you find a pinpoint pupil and enophthalmos in the same eye. What do you think has happened ? What other phenomenon would you expect to find ?

A patient tells you his left leg is slightly shorter than his right. How would you determine if this is so or not ?

I am always concerned to find that the residents in the first 18 months do very well answering the questions and that they seem to enjoy the session ; but the senior residents are much more likely to do poorly, and not infrequently they are bored with the whole business. The senior residents often wonder what all this has to do with psychiatry anyway. Members of the faculty will frequently remark that I expect too much of the residents. They are there to learn the details of

psychiatry and that is a subject which should and does consume all of their thinking. It will be time enough to brush up on other aspects of medicine should the need ever arise, after they are through their training and have passed their Boards. To this observer, such an attitude is ominous for the future of the psychiatrist as a physician.

Psychiatry is a fascinating and absorbing subject, as all of us can testify. To the resident it is a new territory to explore, and he has great enthusiasm for it. Because of this he will tend to put aside all else to learn everything he can of this complicated and challenging specialty which he has chosen for his life work. This is but natural, but it is the obligation of his teachers to see that he remains firmly grounded in medicine, and that he continues to practice what he has learned.

Of course, what has been said about the psychiatric resident retaining his medical skills applies with equal force to his teachers, for they shape his learning and his attitudes.

Would it not perhaps be revealing to poll the membership of this Association to ascertain the last time each had taken a post-graduate or refresher course in any phase of medicine except psychiatry ? I greatly fear that the number who had done so in the past 5 years would be a very small proportion of the membership. There is something inconsistent in this. As an Association, and as individuals, we have quite properly urged our non-psychiatric colleagues to learn more about psychiatry and themselves to handle many of the problems they encounter, thus expanding the services available to patients who need them. But why do we not apply the same logic to ourselves ? Is there some special quality in a psychiatrist that justifies his exemption from the rule "physician first, specialist second" ? Do not our patients come to us in the first instance because we are physicians ?

I submit that to claim exemption from the role of physician in the community can only contribute to the insidious blurring of the image of psychiatry as a part of medicine and of its practitioners as full members of the medical fraternity. Not long ago, for example, in one community it became necessary for the local medical society to establish

a 4-hour duty roster for nights and week ends in the emergency room of the local hospital because of a sharp and sudden depletion of the house staff. All members of the society *except the psychiatrists* agreed to such an assignment in rotation. The duty consisted primarily of identifying the condition of the patient, instituting minimum emergency measures where necessary, and calling for an appropriate physician to attend the case. The psychiatrists maintained that they felt themselves so unfamiliar with what would be required of them that it would be in the best interests of the patients if they were excused. On this basis, they were not given assignments, and quite properly so. To me as a member and as President of the American Psychiatric Association, however, it was disconcerting to realize that psychiatrists in that community were so removed from the main stream of medicine that they—and they alone—had to claim exemption from the role of physician in this emergency situation.

If psychiatry is a medical specialty concerned with the prevention, diagnosis and treatment of mental and emotional disorders, how can psychiatrists allow their basic medical skills to fall into disuse—to rust to the point that they are unusable on demand? We are a uniquely valuable resource for a troubled society precisely because we are physicians. We, and we alone of all those who are concerned with mental illness, are equipped and required to evaluate and assume responsibility for the care of the total individual. There are others who possess the ability to diagnose and treat the physical aspects of the problem. There are still others competent to identify, modify and improve specific psychological and sociological components underlying the onset and affecting the course of mental disorders. But only the psychiatrist is expected to bring together in one person knowledge and technical ability in all of these fields. In fact, while we were as well prepared in medicine at the time of graduation as any of our contemporaries, the great majority of us have not acquired as detailed or thorough background in the behavioral sciences as those who have devoted their lives to mastery of these disciplines. Most of us are not specialists in any one of

the behavioral sciences; rather we are generalists in these disciplines, with the added quality of possessing competence in medicine which other behavioral scientists have not acquired. This qualitative difference, I suggest, is not usefully viewed as a matter of status or rank. It is more properly considered in relation to the role that society assigns to us. This difference is the justification for defining psychiatry as a branch of medicine. One wonders, however, if the incident I have cited is not an isolated case, what justification we have for our position. If one deals only with the psychological or social phenomena of those who present themselves for relief, if one thinks not in terms of the whole individual, if one is not always on the alert for manifestations of malfunction in any organ system, if one is no longer competent properly to identify such pathology and effectively to deal with it either himself or by wise referral, how does one qualify to employ a medical procedure? Under the circumstances how is the psychiatrist to reflect the substance in the medical degree he holds? How does he differ from the nonmedical practitioner of psychological or sociological procedures? The latter is, at least, not expected either by his client or by society in general to possess medical skills.

My plea is that the psychiatrist must retain his basic competence as a physician and that the entire course of his specialist training should be designed to assure that he does. This is largely the responsibility of his teachers not only in general psychiatry, but also in its subspecialties as well. This responsibility must be discharged, it seems to me, both by example and by providing the environment that will motivate the student. If the teacher has scant interest in medicine *per se*, it is to be expected that his students will reflect this attitude.

Additional motivation might be provided if the student knew that at the time he stood for his examinations before the American Board of Psychiatry and Neurology, he could expect the examiners to investigate his grasp of the fundamentals of general medicine as well as of basic and clinical psychiatry and neurology.

The teacher by no means bears all the responsibility, however. The psychiatrist

also has an obligation to his patients and to himself to continue to be knowledgeable in the broader field of his basic profession. There are graduate and refresher courses given frequently, but even more immediately available are the opportunities provided by the meetings of his medical society. Much is to be learned not only through the medium of formal papers and discussions, but also through informal discussions before and after the scientific session itself. I have said during this past year that I feel it is important that each of us takes an active part in our medical society. Such participation offers the opportunity to keep abreast of general medicine and to present ourselves as a *bona fide* part of the medical community.

If we are ever to break down the walls which have isolated us from the rest of medicine, it must be possible for our non-psychiatric colleague to expect as much of us *vis-à-vis* his field as we expect of him in the realm of psychiatry. Weir Mitchell(6) spoke of this at the 50th anniversary of our Association, and Gregg(5) addressed himself to it at our centenary. Perhaps, speaking to you only 17 years after Gregg, I am expecting too much too soon; but, when I view the breath-taking progress of those years, I am sanguine that psychiatry and the rest of medicine are about to become as one.

Some of my colleagues with whom I have discussed my concern have felt that I am putting too much emphasis on the physical aspects of psychiatry. They have pointed out that a psychiatrist must be many things—a physician, a social scientist, an anthropologist, a psychologist. I agree whole heartedly. I would point out, though, as I have said above that our deficiencies in many aspects of psychology, in the social sciences, in anthropology, and similar fields can in a measure be compensated for by scientists working with us who are thoroughly trained in those fields. Since only the psychiatrist, of all those concerned with mental illness is a physician, upon his shoulders, and his alone falls the responsibility for the *total* evaluation of the patient—physical, psychological and social; and therapy, conducted or prescribed in the light of such an evaluation, is his singular responsibility.

Just as I have been told that I expect too

much of residents, so, also, have I been told I demand too much of psychiatrists generally. I do not feel this is so. Rather than demanding too much, I ask only the minimum; and I ask no more of you and me than I ask of any physician.

Some time ago, I sent to the officers of each District Branch, for the information of their members, the verbatim transcript of my testimony before a Committee of the American Medical Association. In it I said it was my opinion that a physician, whatever his specialty, who cannot make reliable psychiatric diagnoses and conduct therapy as skillfully as he carries out any other medical procedure outside of his specialized field, was not properly prepared to practice medicine. I have not heard one voice from this Association raised in dissent. I assume, therefore, that you are at least in general agreement with the position I took as your representative. But what is sauce for the goose is sauce for the gander. Are you equally in agreement when I say that by the same token no psychiatrist is qualified to engage in practice unless he can demonstrate equal skill in the diagnosis and treatment of medical conditions to that we expect of our non-psychiatric colleagues in the field of psychiatry?

By no means do I imply that we should attempt to deal with those conditions requiring specialized skills beyond our competence, but only that we must always be physicians first and psychiatrists second. It is not enough that we be physicians in name only.

What I have said here has been said out of a sincere devotion to the best interests of the mentally ill who are our primary responsibility, and to you, my colleagues, whom I have tried to serve to the best of my ability. This field of medicine which is our special trust, this psychiatry which we try to understand and to apply, is so important for the physical, social and psychological welfare of mankind that our best efforts and most skillful services are the minimum we can offer.

Although I have addressed myself to some of the problems, as I see them, of the psychiatrist as a physician, it has not been my intention to minimize other aspects of his responsibilities to his patients or his community. The scope of what is required

of him is so broad that he may at times despair of fulfilling all that is expected of him. The job is difficult and intricate, and I know of no one, knowledgeable in the field, who has recommended our calling as an easy or simple way of life; but for all that, the satisfactions are so great, the sense of worthwhile service is so profound, that were we to choose again we would still select the same career—and this with the full knowledge that the complexities and the demands of our job are increasing with each new bit of knowledge about man, his behavior and his environment.

Alan Gregg(5) painted the picture of the future of psychiatry as only that great and wise physician and scholar could do when he said :

"Before the two hundredth anniversary of this Association, psychiatry will find great extensions of its content and of its obligations. There will be applications far beyond your offices and your hospitals of the further knowledge you will gain, applications not only to patients with functional and organic disease, but to the human relations of normal people—in politics, national and international, between races, between capital and labor, in government, in family life, in education, in every form of human relationship, whether between individuals or between groups. You will be concerned with optimum performances of human beings as civilized creatures."

This amalgam of new roles we are being called on to fill adds to the danger that our basic medical responsibilities may receive insufficient attention. We must not allow our preoccupation with new roles to jeopardize our foundations in medicine.

As we grow in wisdom and in knowledge, as we become able to fit together more and more pieces of that most fascinating of all puzzles, the psycho-bio-social entity known as man, that which is required of us will increase also. Our role becomes more complex and our job becomes more exacting and demanding. We cannot fulfill these demands upon us by giving short shrift to any of the elements of our profession and least of all to those that permit us the title of *Medicinae Doctor*. Just as the son is the child of his father, so is psychiatry the child of medicine. It is essential to our maximum usefulness, stature and effectiveness that we remember, cherish and build upon that heritage. What ever else we are or may become, we are of the lineage of Hippocrates. By education and by commitment we are practitioners of the healing arts, while giving particular attention to psychological medicine.

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ROBERT HANNA FELIX
Eighty-Ninth President, 1960-61

A BIOGRAPHICAL SKETCH
FRANCIS J. BRACELAND, M.D.¹

There is a kind of Character in thy life
That to th'observer doth thy history
Fully unfold.
Heaven doth with us as we with torches do. . . .
. . . Not light them for themselves.

— Measure for Measure. —

Character, it is said, like porcelain, must be printed before it is glazed, but once burned in there can be no change. As to the printing, many diverse materials may be utilized. Walter Pater wrote of it long ago: "How insignificant," he said, "seems the influence of the sensible things which are tossed and fall and lie about us in early childhood, how indelibly, as we discover afterward, they affect us, as they secure themselves upon the smooth wax of our ingenious souls." This could well have been written prophetically about the 89th president of the American Psychiatric Association, for, as one notes the influences that fell about him, it becomes evident that they would lead him inevitably to medicine and, eventually, to a form of public service which would call forth and utilize all of his attributes.

Though Voltaire stated that he who loves his country well has no need for ancestors, Robert Hanna Felix had been thoughtfully provided with plenty of them. They came from all directions, with a profusion of physicians among them. There were Whigs and Tories and rebels of every size and description. There were several big ones, including Robert Hanna, Surveyor General of South Carolina under George III; yet the Revolution found him fighting for the colonists with a price upon his head. In the other "unpleasantries" in which the nation engaged, the boy's ancestors thoughtfully lined up on both sides, thus giving their descendant entrée into all manner of "posh" societies on both sides of the fence and enabling him to be at one with whomever he

is talking to. Like Seneca, however, Dr. Felix believes that the origin of all mankind is the same and it is only a clear and good conscience that makes a man noble, for that is derived from heaven itself.

Robert Hanna Felix was born in Downs, Osborne County, Kansas, deep in the wheat country, on May 29, 1904, to T. Ovid and Neva Trusdle Felix. His father, known as T. O., was a country doctor; his mother, daughter of a pioneer physician of the West, had studied music in Boston. There was one beloved sister, Mary Bryning Felix, who eventually married her brother's college roommate. The lad graduated from Downs High School in 1921 and then worked for a year to help with the family exchequer, for the pay of country doctors was in comestibles, respect, and affection, rather than in U. S. currency. He entered the University of Colorado in 1922 as a student in journalism, having won an essay contest, and visions of emulating Richard Harding Davis stirred within him. Before the year was out, however, he turned to biology, a temporary way station on the road to medicine, for fate had destined him to become a fifth generation physician in the Felix-Trusdle ensemble.

He entered the University of Colorado Medical School in 1926, completing his work with honor in 1930. As had many a good man before him, he worked to support himself—he drove the hospital ambulance at night. On the side, it is whispered, he acquired a facility for drawing full houses and filling inside straights. Externship, then internship at the Colorado General, and then the decision about residency. He leaned

¹ 200 Retreat Ave., Hartford 2, Conn.

toward OB but he cast about too, for stipends and maintenance were important, as the country was in the depth of "the depression." To his dismay, he was accepted for training in 3 disciplines in 3 different places and all within one week.

A Commonwealth Fellowship put him under the tutelage of Frank Ebaugh and that event, he says, "was one of the most important experiences in my professional career. Ebaugh was a superb teacher, a tough task master, and an inspiring mentor. We were steeped in community psychiatry and a philosophy of public service."

THE PRINTING

Every man who aspires to greatness is unique; some forces touch only lightly upon him, while others leave a lasting imprint. Among the forces which marked Robert H. indelibly were his parents, his wife, and two of his chiefs. The *pater familias*, before he studied medicine, was an historian and a clergyman. He read widely in modern and ancient languages. Bob's mother was an accomplished musician and, thus, the boy was exposed to the best in music and books. T. O. began his medical career on horseback, graduated to a buggy and, finally, to a horseless carriage. There were numerous tales of his homespun diagnostic skill and his boy rode with him and saw evidences of it first hand. The people knew Robert as "Little Doc" and, thus, he was always immersed in a clinical atmosphere and from childhood was permitted to listen to heart and breath sounds through a stethoscope. All of this imprinting accounts for his image of himself as a physician—he had it then, he has it now, and will always have it, no matter how far from the bedside he strays.

From the age of 7 his summers were spent on a farm and these were some of the happiest days of his life. He talks of threshing machines and of oiling and repairing them. He remembers the sweat of the hot days in the wheat fields and he can grow lyrical about what it was like to wake up early on a cold Kansas morning, when snow was on the ground and all seemed blue, the wind was quiet and the sun rose slowly. He can recreate for his listeners his love for the snow, for the earth, and for

everything that was Kansas. Through his love of the land and his pride in his family, he has an almost mystical sense of being bonded to the country.

He can become nostalgic about Ebaugh and his hypomanic drive, which was communicated to all of his colleagues. Of him Ebaugh says: "His nuisance value was considerable. He would ask me the cause of schizophrenia and push me regarding definitions of everything . . . He was a classical hypomanic, so we had many things in common." During his first year of residency, the young neophyte underwent another experience which still influences him. Just as Petrarch saw Laura, Bob saw Esther Wagner (Peg), a member of the nursing staff of Children's Hospital, and neither poet was the same ever after. Bob's descriptions of "Peg" outdo by far the poetry of his descriptions of Kansas. She was ill for a while, so their marriage was delayed until June, 1933, and then, believe it or not, they were married in Loveland, Colorado. Everyone who knows Dr. Felix knows of the place she holds in his life, one shared only by Kathy, a daughter, and each is a joy unto the other.

The residency was over in 1933, the depression was not. A variety of circumstances placed the young psychiatrist at the Department of Justice Medical Center in Springfield, Mo., as a commissioned officer in the U. S. Public Health Service. The next duty station was the Narcotic Hospital at Lexington, Ky., in the beautiful blue grass country, and here his wife completely regained her health. He advanced rapidly in this happy setting and in 1941 was assigned to the Johns Hopkins University for training in public health. By this time, too, he was President of the Kentucky Psychiatric Association, a forecast of things to come.

This training in public health was a powerful influence for the young doctor, for here he saw for the first time the necessity of studying and understanding the epidemiology of mental disease and the essential role the social and behavior sciences play in the picture. His entire outlook on psychiatry changed at that time. He graduated with a Master's degree and as the war broke out he closed the year with orders to the Coast Guard Academy in New London to inaugurate a complete program for the se-

lection, counselling, and therapy of officer trainees. It was here that the young officer was to bloom but, before chronicling his stay, there are several other influences to be mentioned.

Among the seniors Bob had met, Walter Treadway and Lawrence Kolb, Sr. stood out in his affection. Both had been chiefs of the Mental Hygiene Division and Dr. Kolb had recommended him for public health training. Dr. Kolb had also had the seminal ideas for a Mental Health Institute in 1938 and recently, as Dr. Felix was being honored as President of the APA by his staff and friends, he reached into the group, called Dr. Kolb to the fore, and spoke of him as his mentor and the man who had laid the foundation for the development of the NIMH.

No account of these years would be complete without mention of the second chief who was to greatly influence Bob's life, Surgeon General Thomas Parran. Of him Bob says :

He was an inspiring leader who believed in giving his staff their assignments and in letting them alone. Always available for consultation and advice, he was most generous with both, if asked. From the start I had a very great admiration for Tom Parran and a sincere affection for him also . . . His insight into the mental health needs of this country was phenomenal . . . The program would never have gotten off the ground without his support with the Bureau of the Budget, the Department and with Congress.

COAST GUARD

The Felix saga at the Coast Guard Academy deserves a lengthy chapter, but editorial demands require that it merely be touched upon. How he placed psychiatry solidly in the program, how he gained the confidence of the officers, staff, and line, how he eventually became a highly respected physician, confidante, and model for young medical officers, all must be passed over lightly. His program there was run with integrity with a capital "I," as it was before and has been since, and here is the cornerstone of his success. It was at New London, too, that he worked closely with "Vesty," Dr. Seymour Vestermark, he of great and good heart, a lovable, dedicated

physician and public servant. No biography of RHF would be complete without mention of him. It was to Vesty that he looked with filial glance and there was a mutual respect and loyalty between them. Everyone knew of the famous triple play team : Bobbit to "Vesty" to Felix. If one wanted something done, the best way to have Bob do it was to convince "Vesty." Frequently it required Bobbit to do the original convincing. When "Vesty" died all who knew him were distressed but it was an especially sad blow to his chief.

WASHINGTON

On his 40th birthday, May 29, 1944, Dr. Felix was ordered to Washington as Assistant Chief of The Hospital Division. This was obviously for the purpose of looking him over and 2 weeks before Dr. Kolb retired he was told he would be Chief of the Mental Hygiene Division. All of his accomplishments since then are a matter of public record.

The time was right to strike a blow for mental health and the Mental Health Act was conceived, worried about, corrected, and presented to Dr. Parran for his aye or nay. The details of all of this and the people involved and all the hopes and fears and eventual successes are too vast to chronicle here. The bill was passed and was signed by the President on July 3, 1946. Congress adjourned the next day. The National Mental Health Act was official and in business, but without money, since there was no time to obtain a supplemental appropriation.

Bob was advised by the skeptics and cynics that he had been given "the business." He had a law but no money and Congress had gone home. There would be a new Congress next year and they were not bound by the other's actions. Dr. Parran consoled him and appointed a National Advisory Mental Health Council and now money was needed for it to have a meeting. Felix made the rounds of the foundations. The executives were sympathetic, but skeptical, until finally the Greenwood Foundation, now in limbo, put up \$15,000 for the meeting. There is something paradoxical about the fact that a small foundation staked an agency which would distribute millions, if

we had the space to consider it in detail here.

On December 3, 1945, another event of world shaking importance occurred. Mary Katherine Felix (Kathy) was born and, as Walter Treadway says, she became Bob's greatest hobby. Kathy, in turn, sees no need for any fuss; she just declares him "the best Pop in the world."

When Congress convened in 1947 the first appropriation came through, amounting to \$1,900,000. Thirteen years later the appropriation was to be \$100,900,000. On April 1, 1949, the Surgeon General abolished the Mental Hygiene Division, created the National Institute of Mental Health as one of the National Institutes of Health, and named Dr. Felix Director. The Institute became an essential arm of the Service and in March, 1957, he was promoted to Assistant Surgeon General, Rear Admiral, and Principal Officer of Service for Mental Health and Psychiatry. The amount of good this Institute has done for the cause of mental health is incalculable. To even hint at the scope of its research and teaching efforts would be far beyond our purview here. Without its farsighted planning and help, the whole psychiatric picture in this nation would be one bordering on chaos.

AND THEN THE MAN HIMSELF

Often, as the record of a man unfolds, one sees how, wittingly or unwittingly, he is the artisan who constructs his circumstances. He may twist and turn, now going this way and then going that, but eventually he arrives at the niche which was destined for him. If he can tolerate frustration without being weighed down, he can make that niche reasonably liveable and, should he possess the qualities of dedication, discipline and courage, then he and the niche might become comfortable indeed. Love and duty will protect him and constitute the boundaries which keep him in safe territory and, should he by chance be possessed of a touch of humor to lighten the environment about him, then he and those who work with him will be thrice blessed. This is how the staff members of the National Institute of Mental Health consider themselves. There is no unwonted or sickly adulation; they feel they have a clear perception of the man who

heads their organization. They know all of his faults and can recount them readily, but they regard him with respect and a genuine and deep affection, and love him with his faults and in spite of them. They recognize that he does not like being second best in anything; he wants the job done rightly and the spirit of being best is a part of his style of life. His wisdom and the soundness of his objectives, however, prevent this from being in any way unpleasant.

When the Institute was small, "The Chief" knew everyone personally. The same interest that he displayed for the staff and the Coast Guard, he displayed for Institute personnel. He has the ability to understand the other person's point of view and the same ability to make every person he talks to feel that he is a teacher who has something to impart, which otherwise Bob would not have learned. This is an art, for he must encourage people who have something to contribute; yet he knows he may eventually have to sit in judgment upon that contribution.

It is the consensus that Dr. Felix is a learned man. He knows well his own field of endeavor. Sitting as he does in the center of a group which is constantly receiving reports of progress in the different aspects of the field and being briefed by all and sundry, it is difficult to think of anyone better informed in the field of psychiatry. Certainly, when he is fully briefed and prepared to appear before congressional committees, there is no one better informed, for, like the astronaut who eventually will climb into the capsule, he has been in training and preparing for the day when he will take flight up "on the hill," prepared for all eventualities. At these times he is under tremendous tension; symptoms appear; he is frightened and scared and, yet, there is a certain security about his knowledge and a sureness of what is going on; he believes in it and, when he goes up there, he is the Institute.

There are other subjects besides medicine and psychiatry in which Felix has an appreciable knowledge and a high degree of interest. He knows and understands music, he reads widely in the field of literature, and he is somewhat of an expert on the Civil War. Most psychiatrists and many leaders in

other fields have had occasion to sit upon committees and have watched this man work. Their first reaction is one of wonderment that anyone could have been chairman of such high-powered committees for 14 years, passing judgment upon the worth of applications for grants and encouraging the opening up of new directions in psychiatry, without having a whole host of sharpshooters after him.

Next, they are in admiration of his qualities of associating himself in some way with everyone in the area, no matter who they are or where they come from. He has some relationship with each part of the country and some investment in each calling or profession he encounters. If he is speaking before a congressional committee on juvenile delinquency, he recalls his own days as a "juvenile delinquent," for he stole watermelons from farmers! Soon the committee members remember their own youthful peccadillos and then Bob moves into a discussion of the mobilization theory of human behavior. The session ends with everything having been accomplished but taking up a collection. He had started with the small and simple, and ended on a note much more sophisticated. Dr. Parran once spoke of him as having "the ability to take a broad geographic view." One shudders to think what might have happened had a man broad of beam rather than broad of view landed in that job and decided to play it safe and not take a chance on getting into trouble. Had this happened, we would still be back where we started from ages ago.

Many of the present day developments in psychiatry have taken place because of the leadership and assistance of the National Institute of Mental Health and much of this success stems from the vision and unflagging devotion of Robert H. Felix, who has persistently worked toward the application and expansion of the public health approach to mental illness and mental health. His leadership has been directly instrumental in inspiring the confidence of the Congress, the Executive Branch of the government, his superior officers, and his colleagues. One nationally known scientist says: "I can tell you there exists in NIMH an *esprit de corps*, which stems directly from Dr. Felix, that is unique in any organization of this

size. I have often pondered how he can know so much about the various programs, maintain the fantastic schedule that he does and be as effective as he obviously is. One of the basic reasons for his success is his rare ability to concentrate only on what he is doing at a given moment and then relax at every possible opportunity. He is a real father figure to the National Institute of Mental Health and he apparently has that rare virtue of leaving all of his troubles and not taking them home with him."

His hobbies amuse everyone. He goes into everything with such enthusiasm that he is unaware that he is exaggerating. The modest victory garden he had during the war, the roses he grew in Washington, next the dahlias! Then the woodworking in the basement—he is tooled up to make B-59's. The estimate is 50 dollars worth of tools for every dollar project. There are amusing anecdotes, too—the "tomcat" which had kittens, the purple exclamations when the admiral's key was down on the intercom system—but we can't go into them. His intimate friends see him as a man of open heart, great warmth, and a quality of humor which has endeared him as "The Kansas Windstorm."

Honors have been plentiful, as might be supposed. He holds Doctor of Science degrees from the University of Colorado and Boston University, and Doctor of Laws from The University of Chattanooga and Ripon College. He is a diplomate, and member of all of the psychiatric and Public Health societies that he should be, and is a certified mental hospital administrator. He was Chairman of the Budget Committee of the APA for 10 years and Treasurer for one. He has represented his country abroad and at home in many capacities in the Public Health Service and these, plus his many honorary societies and fraternal organizations, constitute a formidable array, too numerous to mention here.

His deepest loves are his family, his country, his work, his church, and his friends, and all of these should be put first. He is a vestryman in the Episcopal Church and the class he runs on Sunday about everything in particular has to put out the SRO sign. Through all of this runs a deep sincerity and a desire to help people. It is difficult to

write his biography ; it sounds so much like a paeon of praise, even though one starts without that intention. There is no doubt, however, about his genuine sincerity and his many abilities ; if he has any enemies, they are simply potential friends

whom he has not had time to level with as yet. As we survey this rather breathless, but wonderfully productive career, in which a dedicated man carried the lamp of sane benevolence chiefly for "the weaker by the wall," we can say to him and of him :

The secret consciousness

Of Duty well performed—the public voice

of praise that honors virtue and rewards it

All of these are yours.

CULTURE AND MENTAL ILLNESS ¹

ASHLEY MONTAGU, Ph.D.²

It is not, I think, too often pointed out that contemporary psychiatric theory and the development of modern cultural anthropology evolved at about the same time. That the cross-fertilizing effects of the two fields have been considerable and mutually beneficial has been gratifyingly clear for more than a generation. That the reciprocal interstimulation will continue in depth on an ever-widening horizon is already evident. The mental health of both disciplines will, in the future, depend to a considerable extent on this continuing agreeable relationship. Something of what has thus far been achieved as a result of the ethno-psychiatric interdisciplinary approach to the study of mental health and illness will, I hope, be made evident in what follows.

With this obeisance to the ceremonial phase of the discussion, as it is called in anthropological circles, we may address ourselves to the more profane part of these ritual proceedings.

We are to discuss culture and mental illness. Let this be taken to mean that I shall not only be discussing the influence of culture on mental illness, but also the influence of mental illness upon culture. The latter is an approach which, it seems to me, has received altogether too little attention.

Perhaps we might commence with some working definitions of our terms. By *culture* we understand the man-made part of the environment, man's symbols, ideas, values, traditions, institutions, pots and pans, and technology. As the late Sir John Myres put it, culture is what remains of man's past working on his present to shape his future.

By *mental illness* we may perhaps understand a more or less gross, more or less persistent failure of social adaptation. It should be made clear at the outset that the term *mental illness* as used here refers to functional mental disorder, and not to organically originating mental illness. It is understood that genetic factors and, probably,

prenatal factors are each classes of variables which, under certain cultural conditions, are capable of making a significant contribution to the incidence of mental illness. By *mental health* we shall mean the ability to love and to work, or if you like, the balance between anxiety and its resolution.

It should be understood that with the development of human culture man has entered a new zone of adaptation, in which, through the socialization process, he learns what is expected of him and what he may expect from others. He internalizes the norms and acquires a working knowledge of his culture as a whole. While no one in any culture ever develops a mastery of every aspect of the culture, in different cultures and in different segments of the same culture there exist significant differences in both the quantity and the complexity or quality of the cultural variables, a good many of which the average member of such a culture is able to command. In general nonliterate cultures (the so-called "primitive" cultures) are both quantitatively and qualitatively less demanding of their members than literate cultures, at least, this would appear to be so. The individual is simply not assaulted by so many and so various stimuli or expected to know and do as much as the average member of literate cultures.

It is an open question whether we do not have in this difference one that is in itself a significant factor in producing the differences in the frequency and distribution of the various forms of mental illness. Is it possible that the sheer weight, recurrence, and complexity of the innumerable variables which the person has to master in a complex society constitute if not the sufficient conditions, then at least some of the necessary conditions in contributing to the incidence of mental illness of various kinds in societies culturally so weighted? The strain of life under highly complicated and stressful conditions of existence can play havoc with the human organism, and it seems to me reasonable to suppose that the

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less stressful a culture is upon the individual the less likely is there to be mental illness in such a culture. The evidence of cultural anthropology supports this relationship.

In every culture there probably exist differences among individuals of a genetic and constitutional nature in the ability to adjust to the stresses and strains of the load of cultural competencies they are required to carry. But when that has been said one has said very little, for the role played by the genes is extremely difficult to measure, and constitution is itself the dynamic expression of the interaction between genetic and environmental factors. It is a massive task, which no one has yet undertaken for any population, to tease out and determine to what extent genes and to what extent environmental influences are responsible for the individual's response to the cultural load which is placed upon him.

The environmental factors begin to be operative upon the organism from the moment of conception, and even before. By "before" I refer to the influence exercised by environmental factors upon ova and sperm before conception. We know that environmental factors operative during the prenatal period are capable of producing what Pasamanick has called a *continuum of reproductive casualty*, which ranges all the way from death to transitory minimal cerebral defects, I believe that in connection with mental illness we shall have to consider the possibility that different cultures provide the conceptus with different prenatal environments sufficiently different to affect the individual's subsequent behavioral development. The influence of prenatal factors upon behavioral development is a fascinating subject which has only just begun to come under investigation. The cultural aspect of the subject remains virtually completely untouched. Neither the anthropologist nor the social biologist, nor, it should be added, has the psychiatrist, devoted any significant attention to this area of human experience. And yet the experiences of the human organism during the first 267 days of its life *in utero* may turn out to have a highly important bearing upon the epidemiology of mental illness. The culturally determined differences in the pregnancy experience of women in different cultures may

well result in differences in predisposition to mental illness of the individual in different cultures.

There is evidence that in our own culture babies born to mothers who have had disturbed pregnancies, at birth already exhibit behavioral disturbances. I refer to the work of Sontag in this country and of Stott in England. Intrauterine convulsions of the fetus have been described in mothers who were emotionally disturbed, and there is evidence that the fetus can be sufficiently emotionally disturbed *in utero* to develop a peptic ulcer and be born with it. May it not be that the differences in cultural experience during pregnancy in different cultures constitute a significant factor in the etiology of mental illness?

A period very differently handled in different cultures and which, it may be suggested, is possibly critically productive of differences in the predisposition to mental illness is the first year of postnatal life. There is a good deal of evidence which indicates that the first postnatal year, and especially the first 6 months, is a developmentally very much more sensitive and vulnerable period than has hitherto been supposed, and that cultures which fail to recognize this are likely to exert a damaging effect upon the development of the individual. The evidence is both interesting and convincing, and a good deal of it has been summarized in Bowby's WHO report *Maternal Care and Mental Health* and in my own *The Direction of Human Development*. Recently I have come to view man's gestation period as not being completed till about 8 to 10 months after he is born, that is, about the time when he begins to crawl. *Uterogestation* is terminated, in my view, principally because the size of the fetal head reaches the maximum size consonant with its ability to pass through the birth canal. The fetus must be born when it is born if it is to survive, but its gestation must continue outside the womb, a process which I have called *exterogestation*, similar to that of the marsupial. If this interpretation of the facts is correct then it should be clear that the human infant during its first year is in a very much more precarious position in relation to the world into which it is born than we had previously supposed.

Mother and child continue to form a symbiotic unit at birth. Birth is wrongly interpreted as an interruption of that unity, a unity which should continue for many months after birth, and which both mother and infant are reciprocally designed to continue. Contact with the mother's body, the baby's visual experience of that body, the support she gives, the breastfeeding that should continue for at least 9 months, all these are indispensably necessary conditions for the wellbeing and healthy development of the infant. Any culture which discourages its mothers to behave in this manner is likely to contribute in a major way to the predisposition to mental illness in its members. The extreme dependency of the infant must be met with all the responses it calls for. Unless these are provided the results may be subsequently catastrophic. Whether such satisfactions are afforded the infant is a matter which in every society is culturally determined. Hence, here is a basic relation between culture and the incidence of mental illness.

At this point it is perhaps necessary to say that no culture is completely homogeneous, in the sense of providing or being the same for each of its members. There are differences of status, roles, class, caste, and the like. There appear to be interesting differences in the frequencies, and in some cases even in the kinds, of mental illness, associated with such social differences. This has been clearly demonstrated in Hollingshead and Redlich's 10-year study of the New Haven community, *Social Class and Mental Illness*. Among the 5 social classes distinguished by these investigators, the results showed "The lower the class, the greater the proportion of patients in the population." Class differences in type of mental illness followed the rule: "The higher the class the more neurosis and the less psychosis, or inversely, the lower the class the more psychosis and the less neurosis." But, as Hollingshead and Redlich point out, these differences may be an artifact of the different ways psychiatrists are utilized by the classes. Also genetic and constitutional factors may play a role. However this may be, Hollingshead and Redlich have made out a good case for the view that "who becomes a psychiatric case, particu-

larly if neurotic behavior is involved, depends in large part upon where one is in the class structure." Similar findings have been reported by Kaplan, Reed, and Richardson on the prosperous Wellesley, Massachusetts population, and the "below average," "Whittier Street area" of Boston.

Class and caste, and even religious differences within any culture, often become as significantly different from each other as are the differences between different cultures. This is not a new observation. Anyone of any experience of life has repeatedly made it, and it was quite clearly stated in 1845 by that remarkable anthropologist Benjamin Disraeli when, in his programmatic novel *Sibyl*, he says, "I was told that the Privileged and the People formed Two Nations," (Bk. Iv. Chap. 8). The "Two Nations," of course, being the upper and lower classes of 19th century England.

In America Jurgen Ruesch finds that the preponderance of psychosomatic conditions in the lower middle class, "the culture of conformance and excessive repressive tendencies," may be explained as due to the lack of expressive facilities, hence the solution of psychological conflicts through physical symptom formation. In the lower classes, hostility frequently tends to express itself through accidents, fractures, and traumatic disease. The upper classes, "with overbearing superego traditions" manifest a relatively large frequency of neuroses and psychoses, especially of the manic-depressive type.

Tietze, Lemkau, and Cooper in their study of the relation between mental illness and socioeconomic status in America found that schizophrenia tends to be the mental illness most common among social isolates, such as unskilled workers, farmers, or lone urban residents and manic-depressive illness being most prevalent among professional, religious, socially prominent, and other groups of persons, who have strong idealistic, interpersonal, and community involvements.

Every culture requires the acceptance of a certain number of fundamental values. This requirement in many cultures, if not in all, is itself generative of stress in some individuals who, from constitutional, temperamental, or other reasons are unable to ad-

just to such values. In some cultures, such as our own, the attempt is made to socialize the individual in irreconcilable and mutually conflicting values. For example, the accidents of history have made Americans the heirs of the Hebraeo-Christian tradition ethically, and of successful competition within the framework of American social evolution. A great many individuals break down from the effects of unsuccessfully struggling to reconcile the Sermon on the Mount or its equivalent with the principle of competition. Others find no difficulty in harmonizing the two. As a consequence of carrying the burden of such conflicting values why do some individuals break down, while others do not, exhibiting, at most, only minor symptoms? Until a great deal more research has been done it will not be possible to return a satisfactory answer to this question.

Where the culture provides institutionally sanctioned outlets for the reduction or resolution of the stresses it creates, or where the individual can find these for himself without too much strain, mental illness is likely to be avoided by those who can utilize these outlets. Those who cannot are likely to become behaviorally ill under the strain.

In a small atoll society of 250 people such as that of the Ifaluk in the Central Carolines of Micronesia, where the climate is pleasant, land and sea produce an abundance of food, and the work required of anyone is neither long nor strenuous, it is not difficult for anyone to live up to the paramount values of the culture: kindness, cooperation, and nonaggression. Spiro tells us that no one could remember a single instance of murder, rape, robbery, or fighting (with one exception). Hostility finds an outlet through individual and cultural fantasy, that is, through dreams and legends. Religion provides another outlet for hostility through its good and bad ghosts (*alus*). But even on Ifaluk mental illness sometimes occurs, and there were 3 such cases in which, interestingly enough, a dominant characteristic was the subdued aggressiveness of each affected individual. Spiro attributes the repressed hostility and anxiety of the Ifaluk individual to the peculiarities of Ifaluk infantile experience—largely the morning bathing of the helpless infant in

the cold water of the lagoon—water so cold that adults avoid it until the sun has warmed it and it becomes bearable. All else is over-indulgence until 4 years of age, when children's emotional needs are both ignored and rejected.

Why do the vast majority of Ifaluk manage to avoid mental illness? The answer, according to Spiro, appears to be the sanctioned outlet that religion primarily affords. Aggression is displaced upon the malevolent ghost, the *alus*. Another important means of reducing hostility and anxiety and satisfying the Ifaluk's dependency needs, is the institution of the chieftainship. As the paramount Ifaluk chief put it,

The chiefs are like fathers here. Just as an empty canoe is tossed about by the waves and finally sinks, so, too, a society without chiefs is tossed about by conflict and strife and is destroyed. If a father asks his son not to behave badly, the latter may not obey him since he may not respect him highly. But all people obey the words of the chiefs, since they are feared and respected by all. The chiefs' duty is to see that the people behave well. The chiefs must constantly tell the people to be good, or else the society, like the canoe, would be destroyed.

In the United States quite a number of people felt the same way about Franklin Delano Roosevelt. When he died in 1945 it was for millions as if a protecting father had died. The importance of making a strong identification with a parental figure in the development and maintenance of mental health is today, I believe, abundantly clear.

The Ifaluk fear to lose the love of their chiefs and do everything in their power to maintain it. And this is the main incentive to conformity to the ethos of cooperation and kindness which the chiefs so prominently personify. The chief is a warm, loving, parental figure. The love and praise given by the chiefs provide the essential satisfaction and security of which the individual was deprived as a child.

Perhaps the Ifaluk has achieved an approximation to the Welfare State from which other societies could learn a thing or two. At any rate, the Ifaluk do afford an interesting case-history which may help us to understand better by what cultural devices mental illness could be kept to a mini-

mum in any society. The indications are that emotional stress, anxiety, and conflicting values must be as minimal as possible, but since such experiences are not wholly avoidable, that the culture provide institutionally sanctioned means for the expression of aggression and the reduction of anxiety, as well as support for the dependency needs of the individual. It is interesting to note here that in the western world mental illness is least frequent among the subscribers to that religion which makes a real attempt to satisfy these requirements, namely, the Catholic. This suspicion was corroborated by the findings of Hollingshead and Redlich on the population of New Haven, although they found that among the lowest class Catholics there were more frequently psychiatric patients than among either Jews or Protestants. Why this should have been so remains an interesting but unanswered question.

Fairly clearcut evidence of the relation between culture and mental illness is to be found in a culture which flourishes in our very midst, namely, that of the Hutterites. The Hutterites have a reputation for peace of mind, and many who have written on them have been lastingly impressed by this quality. Eaton and Weill and their co-workers, on first contact with them were struck by the generally prevailing atmosphere of relaxation, contentment, cooperativeness, and absence of manifested anxiety. Upon investigation, in the summer of 1951, it was found that out of a Hutterite population of 8,542 people, 199 or 1 out of every 43 living Hutterites were then mentally ill or had been previously.

The total number of schizophrenics was 9, manic-depressives 39, there were 53 with neuroses, 16 with psychophysiological disorders, and 6 with personality disorders.

Withdrawal in so well-knit a group as the Hutterites is difficult, and this Eaton and Weill suggest may explain the fewness of schizophrenics. On the other hand, depression appears to be an intensification of a culturally supported normative trend.

Among the Hutterites no cases have been known to occur of psychoses due to drugs, alcoholism, or syphilis. There were no psychopathic personalities. Murder, arson, violent physical assault, or sex-crimes were

quite unknown in this group. Only two persons showed moderately severe character disorders. Divorce, separation, or even family quarrels were rare. Violence, panic, and severe regression are uncommon, even among psychotics; suicide was extremely rare.

Eaton and Weill conclude that the facts justify the generalization that Hutterites tend to internalize their problems rather than project them into their relationships with other people. Under stress, they are much more likely to be anti-self than anti-social. The socialization process and communal indoctrination supports this normative behavior tendency. This emphasizes submission of the individual to community expectations, the principle of personal guilt and pacifism.

Such findings have led to the formulation of the hypothesis of specific cultural relevance with respect to the epidemiology of schizophrenia and manic depression, to wit, as we have already seen, schizophrenia is the disorder of social isolates and manic depression the disorder of the socially involved. At the same time the structure of Hutterite society does seem to show rather clearly the kind of cultural factors that are operative in relation to the production of individual and social disorganization or non-disorganization.

It is fairly evident today that all human beings at some time during their early development possess the potentialities for behaving in schizophrenic, manic, depressive, obsessive, or anxiety patterns. Whether an individual will respond to his behavioral environment, that is, his cultural environment, with one pattern of behavior or another will depend very much upon the pressures of that cultural environment, making all necessary allowances for genetic and constitutional factors. Some cultures produce more and more severe forms of these responses than others, and the cultural stresses that do so may vary in their nature in different cultures. In some cultures mental illness is institutionalized, by which is meant not that the individual is put into an institution as a sick man, but rather that he and his behavior are incorporated into the society as a normal part of it. The person whom we would regard as normal in our

society would be regarded as sick in such a culture. The diabolical, hostile, paranoid Dobuans of northwestern Melanesia make a virtue of treachery and ill-will, and would regard anyone who deviated from this pattern as utterly unfit to deal with the malignancies of this cutthroat world. Malignancy and hostility are therefore institutionalized as the ethos of Dobuan culture—it is a way of life.

Similarly, the Balinese, in a culture in which the food and material goods are adequate, war and crime at a minimum, the arts highly developed, the traumatizing experiences of childhood turn the Balinese into schizoid personalities. From about 5 or 6 months of age, and steadily becoming more definite as the child grows older, the mother continually tantalizes and teases the child. She stimulates him to show emotion, love or desire, jealousy or anger, and then turns away, as the child in rising passion ragingly and despairingly implores emotional response from her. The discouragement of interpersonal emotion is systematic. The child never attains a climax of emotional response, and the resulting withdrawal is seen in a lack of responsiveness which is established by the age of 3 or 4. The relationship to people remains distant, wary of the expression of too much feeling. When he is frightened, the Balinese falls into a soft sleep from which it is difficult to wake him. When he has to wait he may curl up into a fetal position and fall asleep. Within his own highly elaborate system of time and space he moves relaxedly and with grace; in an unknown situation he is unable to act at all. On tests, the Balinese respond like schizophrenics, yet they are fully functioning members of their community.

Responding to a question raised by Lauretta Bender, "How many schizophrenics can a society absorb and survive?" Margaret Mead says,

One might say that Bali had been able to absorb a much higher number of those who would be schizophrenic in other societies, until their special potentialities, seen now as one variant of human nature, had helped develop a social order that was self-perpetuating. To this all children born in Bali were exposed, they, in turn, absorbing, in posture and gesture and capacity to move within a highly protected,

symbolic system, something of the special gifts, the special vulnerabilities, the special sensitivities of the potentially schizophrenic, fitting in with the phrasing that "schizophrenia is not so much a disease as a way of life." In studying Balinese culture, the details of childhood experience may be seen as a way in which a culture perfectly adapted to the particular constitutional needs of schizoid individuals is communicated to all human children, involving far greater trauma for some than for others, subduing all to a state where they do not threaten the pattern, and developing an insatiable demand for symbolic rather than immediate satisfactions, turning the schizoid hunger for a meaningful pattern into an appetite for the practices of living arts (in F. Alexander, pp. 439-440).

The important thing to note here is that in Bali the schizoid habitus has become institutionalized and that it has given Balinese culture its essential character, in the arts, interpersonal relations, and in religion. This has been discussed by others elsewhere; here it must suffice to say that the arts, interpersonal relations, and religion are all greatly influenced by the prevailing psychosis—using that word to mean no more than "a state of mind"—and each of these cultural activities and institutions affords the individual abundant opportunities for the maintenance of his own self-homeostasis.

Thus, we begin to perceive how mental illness may, to a large extent condition the institutionalized forms of emotional expression such as religion, pageantry, painting, carving, puppet-making, music, the dance, drama, narrative, and the like. For in Bali it seems quite clear that these forms of emotional expression are designed to fit the requirements of the individual's emotional needs.

The effects of mental illness upon the structure and functioning of society is a matter which in our own time has assumed the dimensions of a world important problem. No less than the problem of the survival of mankind itself. The question is: How behaviorally deranged can a society get before it endangers its own survival and that of others? Before that question can be answered we must dispose of the doubt as to whether it is possible for a society to be behaviorally deranged, and

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consider whether the phrase is only a figure of speech. I recall a brilliant book by an Englishwoman, Caroline E. Playne, *The Neuroses of the Nations*, published in 1925. It was 30 years before its time. I read it in 1925, and I also read the reviews. I was impressed by the book, but not by the reviews, which were largely scornful. How could a nation be neurotic? Neuroses applied to individuals, not to such complex entities as nations. This was the main criticism of what was otherwise conceded to be a well-written and interesting book. Only 8 years were to pass, or if you like 20, for Miss Playne's analysis of the German and the French neurosis to receive full corroboration from the tragic dénouement of events. But meanwhile Miss Playne's book and her examination of national neurosis has been forgotten. I should like briefly to quote her thesis in her own words. She writes :

The study on which we embark of the national group-minds of the two great continental representatives of Western civilization, France and Germany, is an examination of the nature of the limitation which in their case "held up" the generation who lived at the beginning of the twentieth century. And the contention is that the special limitation of human nature which hindered the progress of this generation was the failure of men's nervous systems to adjust themselves to the ever-increasing strain of life under highly stressed and complicated conditions of existence. Out of this failure of adjustment arose nervous excitement, nervous depression, general irritation, resulting in anger and passion. Primitive passions burst forth, accompanied by emotions of instinctive type. The effect of this upthrust of ancient and obsolete furies into the newer order was so turbulent, that . . . they swept the masses out of the path of reasonable advancement and plunged them into a series of group-neuroses.

Whatever one may think of Miss Playne's explanation of the dynamics involved, it took the spectacle of Nazi Germany to convince some observers, at least, that a whole nation could be mentally ill, for how otherwise would it be possible to account for the behavior of the Hitlers, Goerings, Goebbels', Himmlers, and Eichmanns, and countless others like them but by the history of the average German's behavior? Those who

had known many Germans and who ever gave the matter any thought, like those German exiles Heine and Nietzsche, were aware of what the Germans subsequently proved themselves capable. One does not have to read the memoirs of Nazi generals or concentration camp commandants to know that the cultural conditioning of a majority of the Germans was such as to make rigid, fearful, emotionally shallow and humanely arid, obsequious and obsequious creatures, who were never happier than when commanded or commanding. The parallel between German family structure and the structure of German political life is now something of a cliché of the psychiatry of peoples. Dr. Bertram Schaffner has discussed this subject in his aptly titled book *Father Land: A Study of Authoritarianism in the German Family*. The manner in which the adult German personality is formed within the German family in great part serves to explain that personality. The fear and respect, *Ehrfurcht*, inculcated for the father, *Pflicht* the obsessional sense of duty which seems to serve the German as a substitute for what is elsewhere known as a conscience, the absence of love, the subservience of women, the commanding position of the father, the word of the father as inflexible law, the unquestioning obedience expected of children and inferiors, the emphasis on work, the thoroughness and attention to detail, the fear of failure, the discipline and regulation, the enforced passivity of the child, the lack of freedom, and the like, would be enough in themselves to explain why the Germans are Germans.

No analysis can be attempted here of the historical conditions which caused German culture to develop in this way, but if there is one man who deserves a major share of the discredit that man is Martin Luther. It was not, however, one man, but many who were responsible for Germany's totalitarian development. Germany was and still is a nation of little Hindenburgs, Ludendorffs, and Hitlers. They are turned out as regularly and as invariably as a pattern made to a template. The patterning of the German personality has on two occasions already had the most devastating consequences for millions of human beings, and it may be predicted that it will again. Just as it may

be predicted that all American attempts to democratize the Germans will fail. The Americans helped the Japanese to achieve a democratic revolution that had already long been in the making. But can a nation of little Hitlers be taught democracy? I believe not. Democracy is something one learns in the home. It is not simply a political doctrine. Politics is life, and political attitudes are founded in the home. "Do you imagine" wrote Plato in *The Republic* "that constitutions grow at random 'from stone to stone,' and not from those characters of the men in cities which preponderate and draw the rest of the cities after them?" The characters of "the men in the cities" are determined by the agencies that shape them within the family. Democracy in Germany can come about, if at all, only by gradual evolution, and only after the German family has democratized itself. As things are today there is hardly a German who really understands the meaning of democracy.

The comparative psychiatry of cultures and of nations would be a fascinating topic to pursue further. It is a subject in the making. Each nation has its own psychosis, and some of them happen to be more dangerous than others. I hope I have said enough in this paper to suggest that it is a subject worthy of our closest attention.

I have thus far spoken of the influence of cultural factors upon the incidence of mental illness. I should now like to say something about the influence of the mental illness that prevails in any culture upon the condition of that culture. It should be clear that in a culture in which there are as many sick individuals as there are in Dobu that such a society must either ultimately destroy itself or change its character. Dobu is a remarkable example of what happens to a culture when virtually everyone in it is mentally unbalanced. Mental illness becomes the norm of behavior, and in a short time there remains no one in such a society who is able to perceive that such behavior is, in fact, socially maladaptive and destructive. The parallel to some western societies is rather deadly, and we in the western world have to ask ourselves, before it is too late, whether it may not be that at the present time we stand at the very edge of doom because mental illness has become endemic

among us and institutionalized as a way of life. We have to ask ourselves how mentally fit are those men in our culture who occupy high office and influence the lives of millions of others?

We have to consider whether motivations which move many men to acquire political power are not generated by something less than the desire to be of help to mankind, and we have, in addition, to consider whether the citizens who make it possible for such persons to realize their drive for power, are not perhaps as sick as those they elect.

Mental illness, it would seem, has not been uninfluential in the appearance of certain forms of art, architecture, and literature, not to mention many of the things that are said and done through the usual form of these arts.

A culture such as that of the United States, which not only permits but encourages the employment, for example, of newspaper columnists who are clearly mentally ill, in which such men grow to riches, fame, and even respect, evidently caters to the deepfelt needs of mentally sick individuals. This is further evident in the nature of the entertainments favored by the masses, in which murder, violence, rape, and sexuality form the staple article of diet, and in the plays having morbid and perverted themes for their plots. It would appear that it is no longer the blind who are leading the blind into the ditch, but the mentally ill who are leading the mentally ill, and contributing to the secularization of even greater numbers of mentally ill.

We stand much in need of a social psychiatry which will devote itself to the study of the causes and cure of the mental illnesses of cultures.

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A VISIT TO THE ARGENTINE¹

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An invitation to the Second Argentine Psychiatric Congress held in Mar del Plata November 2-6, 1960, provided a welcome opportunity to meet some of our South American colleagues, visit several institutions, and acquaint myself with some Argentine psychiatric activities.

In recent years there has been a very rapid increase of psychiatric interest and activity in the Argentine. Forty years ago there were probably no more than 50 Argentine psychiatrists, working mainly in hospitals; there are now over 600 physicians of various levels of training working more or less exclusively in psychiatry, most of them in private practice, including about 100 psychoanalysts. The first psychiatric congress initiated by cooperating psychiatric societies was held in 1956: the broadening professional interest, now involving psychologists and other auxiliary workers, led to a larger second conference in the beautiful sea port of Mar del Plata, south of Buenos Aires. There were about 500 participants, including nearly 300 psychiatrists. Several other South American countries were represented. The principal themes were mental health and work, clinical psychopharmacology, and the neuroses and psychoses of childhood; 100 papers were presented and round tables held. The entire proceedings will be published. In general the papers represented a sophisticated level of scientific interest, and there were frequent references to the social context of psychiatric disorders. There appeared to be a much greater willingness for different schools to meet together than is customary in our country. Very little experimental

work was presented, research design was negligent, and statistical refinement rare—all reflecting basically an inadequate support of psychiatric research. Many of the clinical psychopharmacological studies were directly sponsored by the drug companies, who helped support the Congress in other ways. The newer drugs are widely publicized and enjoy considerable vogue; they may be sold in the Argentine without medical prescription.

The fishing port of Mar del Plata is not only a resort for the *porteños* but has one of the biggest gambling casinos in the world, run by the provincial government. It has, moreover, a socialist mayor. Part of the income from the tourist trade goes into social services, and a modern cerebral palsy rehabilitation center, *Il Centro de Rehabilitacion para Niños Lisiados* (CERENIL), has recently been developed there under the enterprising leadership of Dr. Juan O. Tesone, an American-trained orthopedic surgeon who has not only brought new equipment and techniques to Mar del Plata, but has succeeded in mustering ample philanthropic aid from the local business interests. CERENIL has even been allocated a block of beach cabins whose lucrative rentals help support the service.

BACKGROUND

Nineteenth century Argentine society was still largely feudal, with a wealthy landed gentry that controlled huge holdings, an aristocratic ruling class and a large population of extremely poor peons or workers. Recent decades have seen the rise of a prosperous commercial and professional middle class who live in modern comfort in the large cities, with theaters, autos, opera and smart shops that rival the best of Europe's. But striking class differences still remain, and on the outskirts of Buenos Aires big areas of one-room hovels can be found, without water, electricity or sewage, where scores of thousands live in squalor, and where infant mortality in the summer months reaches terrible figures; con-

¹ I would like to thank my Argentine hosts for their unfailing friendly hospitality, and especially Drs. Locci and Barbagelata of the Mental Health Advisory Council, Dr. Torrence of the Statistics Division of the Health Ministry, Drs. Gregorio and Sylvia Bermann, Dr. Pichon Riviere, Dr. Recca and many others for their helpfulness in answering my many questions.

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ditions in the sparsely settled interior are said to be as bad or worse. According to the figures from the Ministry of Health, infant mortality in the country as a whole is 60 per 1000 (compared with 27 per 1000 in the U.S.A.) but is only 30 per 1000 in the populous cities—an average based on a very unequal rate in different sections. Infant mortality is especially high in the rural areas (in some districts as high as 200 per 1000) and over half of the children in these areas have intestinal infestation. Figures given to me at the Health Ministry indicate that expenditures for health services from all sources—public and private—amount to about 1200 pesos per person per year (\$15), but most of it comes from public funds. There are now 28,000 psychiatric beds in the country, but 48,000 are said to be needed (though some think it would be wiser to expand acute and preventive services). 50 to 65 pesos per person per day are paid for all services and maintenance for psychiatric cases in public hospitals, but officials told me they need at least 100 pesos per day as a bare minimum. In the larger public general hospitals in Buenos Aires the present costs are 400 pesos per day per patient. Other welfare services related to psychiatric needs are similarly backward, so that social factors not only create excessive psychiatric morbidity, but prevent effective treatment and rehabilitation. Recent inflationary trends have aggravated the whole problem.

The population of the country has increased rapidly from less than 5,000,000 in 1900 to over 20,000,000 at present. Much of its immigration is thus relatively recent. Argentina is the most European of the Latin American countries, with relatively little Indian and practically no Negro population. In spite of some very poor areas, it is economically the most advanced country in South America. It has always been strongly bound by economic ties to European and more recently American interests, and its upper classes were typically educated in foreign or foreign-language schools. At the beginning of this century its neurology and psychiatry were mainly influenced by the French; after World War I German and to some extent English influences appeared, but for the past 2 or 3 decades

its psychiatric orientation has been increasingly American. In the past few years a small but influential Pavlovian group has been following the Russian literature. Most of the books on display at the Congress were translations of American authors. The past period has also seen a definite separation of psychiatry from neurology, a huge increase in the private practice of psychiatry, and an active development of psychoanalysis.

Argentina is proud of its own psychiatric traditions. Diego Alcorta (1807-42), like our Benjamin Rush, was inspired by French influences and was interested in both physical and social causes of psychic disorder. José María Ramos Mejía (1850-1914), Domingo Cabred, (Professor at Buenos Aires until 1916), José Ingenieros (1877-1925), Christofredo Jakob (1806-1956), are all illustrious names. Angel Garma who migrated from Spain after the Civil War, founded the influential Argentine psychoanalytic movement, and is still active. Eduardo E. Krapf, formerly professor at Buenos Aires, now heads the Mental Health Section of the World Health Organization. Dr. Gregorio Bermann, another early psychoanalyst, has since defected to the anti psychoanalytic camp, apparently without damage to his high standing in the profession. The Argentine Psychoanalytic Association now has about 100 members, half of whom are following what could be called a neo-Freudian orientation under the leadership of Dr. Enrique J. Pichon Riviere, who was President of the current Psychiatric Congress. This latter group has its own teaching center, the *Primera Escuela Privada de Psiquiatría*, affiliated with the Argentine Institute of Social Studies.

HOSPITAL NACIONAL NEUROPSIQUIATRICO

• Following the conference, I spent a week visiting various psychiatric facilities around the city. When I said I wanted to see their worst as well as their best I was advised to visit the federal *Hospital Neuropsiquiátrico* in the suburbs. The hospital consists of a neglected group of stucco and concrete buildings on grounds that are no more than heaps of stone and sandy rubble. It houses 3,500 patients on a budget of 50 pesos per patient (42c) a day, without a single full

time trained psychiatrist, very few trained nurses, not a single social worker, and with 6 attendants per 24 hours for each unit of 124 patients. About 82 visiting physicians work about 18 hours a week, for which they are paid 4000 to 5000 pesos a month. The Director, Dr. Omar J. Ipar, gives the hospital 6 hours a day. Many patients help care for other patients, and the inmates comprise 80% of the working staffs in kitchen and laundry. Psychotic patients roam the open grounds unattended. An average of 2 patients a day wander off or escape; 90% are returned. There are 1200 admissions or readmissions (75%) a year. Of every 100 new cases admitted 50 remain in the hospital while 50 die or are discharged. The illicit smuggling of alcohol into the hospital grounds is a constant problem. Tuberculosis was formerly rampant, but is now controlled with antibiotics. There are 250 deaths including 7 suicides a year. General conditions seemed deplorable, though some sections of the hospital were being renovated. Aside from the work the patients do to maintain themselves, there was little planned occupational activity, and I saw many patients lolling on their beds in mid day, or gazing vacantly at the walls. In the event of discharge, there is usually no follow-up.

A program for the training of 12 part time residents began four years ago and was said to be going well. Regular staff meetings are held, and the hospital has just resumed its annual neuropsychiatric bulletin and journal. Fortunately an association with a specialty hospital such as this is still regarded as a prerequisite for professional standing in private practice. Though the caliber of the doctors I met seemed to be good, their opportunities for useful work under these conditions were discouragingly limited. I saw 2 busy and well equipped pathology sections however, and some work in chemistry and pharmacology was being done.

POLICLINICO DE AVELLANEDA

A visit to the small psychiatric services of Dr. Sylvia Bermann in a general hospital was a pleasant experience. Staffed by a few dedicated psychiatrists, mostly women, it was providing excellent services to children

and adults in an atmosphere of warmth and serious scientific interest. A small 10-bed inpatient service for the active treatment of acute psychoses was a welcome new asset to the hospital, and relations to other hospital departments were excellent. Dr. Bermann was being paid 4000 pesos a month for directing this service, though it was her major activity, and some of her staff physicians got no pay at all.

CHILD PSYCHIATRIC CLINIC, HOSPITAL ESCUELA SAN MARTIN

Dr. Telma Reca de Acosta, a quiet and charming woman with some American experience, heads the newly developed university children's psychiatric clinic at the *Hospital Escuela San Martin*, housed in an ample though sparsely furnished wing of the newly constructed university hospital. Though there are 2 other small children's psychiatric services in this city of 6,000,000, hers is the best known and is trying bravely to meet the rapidly growing demand for services. It is staffed by 5 part time psychiatrists who are paid the equivalent of \$60 a month, a few psychologists, and some non-professional assistants, but so far by no social worker. The clinic handles 25 new cases a week; few children can be seen more than once, and most of the follow-up work is done with the mothers in groups set up mainly according to the age of the child. There is no waiting list; in this way maximal use is made of the scarce professional personnel. Two-thirds of the referrals involve reactive behavior disorders or neuroses, about 10% to 15% are problems of mental defects, and there is a small percentage of psychoses. Except for some of the retarded children, there is no special public school classes for these disturbed children, and no available residential facilities for childhood schizophrenia, a group for whom Dr. Reca is attempting some special therapeutic help. Several physicians attend the clinic for training, since residency training in the specialties is still not established in the Argentine. Although present operations are relatively modest in scope, the establishment of this new clinic is significant, and will undoubtedly lead to bigger developments.

POLICLINICO DE LANUS

This university service of psychopathology and neurology under Dr. Mauricio Goldenberg is generally regarded as the best psychiatric clinic in the country. It is housed in a busy public hospital comparable to Bellevue in New York City, and has both an outpatient, and an inpatient service of 32 beds—practically all used for psychiatric cases. It has 35 staff physicians, most of whom give half their time to the clinic, though only 5 are paid—\$50 a month, with \$75 a month for the chief. Seven of the psychiatrists specialize in group therapy. There are 7 well trained psychologists, plus a number of psychological trainees. The clinic boasts one full time social worker and hopes soon to have a number of psychiatric residents in training; it handles about 40 appointments a day and takes on about 35 new patients a week. Its psychiatric case material consists largely of neuroses, early psychoses—mainly depressions—and alcoholism. I was told that after a few visits most patients tend to drop out. Group therapy is a special interest of the clinic, and some of the patients are treated on a day hospital basis. It conducts considerable research, most of it involving the newer drugs, and all of it supported by the drug companies. Its orientation is Pavlovian (misnamed “reflexological”) and it is active in developing a school of psychotherapy with an experimental basis, largely under the leadership of Dr. José A. Itzigsohn, a Russian-born psychiatrist and translator of Pavlov.

At this clinic I met with a large group of medical students, who wished to ask questions, first about psychiatry, and then about the U. S. A. Half of them said they would like to train in the States because full time training opportunities have only begun to be developed in their country. As a group they seemed to be well-read and surprisingly well informed on broad social issues, a characteristic, I was told, of most South American students. They were alert to the pressing need for medical progress and reform, seemed especially interested in knowing of different psychiatric schools of thought in America, and carefully noted the names of all the authors I mentioned.

A PSYCHOANALYTIC GROUP

I spent an interesting evening with some 20 young analysts associated with Dr. Pichon Rivière. I was encouraged to give my views and join in discussion of a variety of psychiatric topics, all duly tape-recorded. Discussion continued until well past midnight, which is said to be not unusual in Buenos Aires. Major interest was focused on psychotherapy but I was most favorably impressed by the breadth of interest of this group and their receptivity to new ideas. Many unfortunately were losing contact with hospital work because it was demanding and unremunerative. I think it would be a pity if means were not found to bring their interests and talents to medical settings and to broader services.

PUBLIC HEALTH AND PSYCHIATRY

I had an opportunity to meet with Dr. José Luis Locci of Rosario, the chief psychiatric advisor to the National Ministry of Health, and Dr. Ricardo R. Barbagelata, a teacher of psychology in one of the provincial universities, who is also an adviser to the National Committee of Mental Health. They told me that the present national psychiatric budget amounts to 637,000,000 pesos a year (about \$8,000,000) exclusive of construction. This is used almost entirely for the care of the 22,000 psychiatric cases in national hospitals (there are also 6,000 in provincial or private hospitals), an additional 4,000,000 pesos a year are allocated for research, and a similar amount of preventive work. They frankly emphasized the very serious shortcomings of their present psychiatric services and felt that the Government must take quick action to satisfy even the minimal needs of the population; many additional beds were needed for psychiatric cases and they thought that the budgetary allotment for each bed should be substantially increased. Except for one small university service in La Plata and an institution for the feeble-minded the country had no residential psychiatric facilities for children. There is not a single full time head of a psychiatric service in all the Argentine. There is official appreciation of the need for such positions, and for the expansion of psychiatric services in general hospitals, all within a broad

framework of augmented medical services for the whole nation, similar to the comprehensive health services in the neighboring state of Chile. The day hospital was favorably regarded.

CONCLUSIONS

Argentina has its fair share of talented and public spirited psychiatrists, but their professional development and usefulness are hampered by inadequate support and facilities. The opinion was frequently expressed, even by Government officials, that general planning for medical services on a national level is long overdue, and will have to be initiated. Even the 1200 pesos per year per capita that are now being spent by the public could yield far better health services, including psychiatric services, if expended in some planned and rational way. Until that is done, there seems to be little prospect of providing adequate psychiatric care to meet the needs of the Argentine population. Meanwhile it is to be hoped that some of the most urgent and immediate needs will be satisfied.

A question I often asked was how we in the U. S. A. could be helpful. Many younger physicians expressed the wish to spend a period of training in the U. S. A., but it is my impression that in the past many or most of the American-trained physicians have returned to give their major

interest to private practice and have neglected hospital work. "How else could we earn a livelihood?" they ask. It seems to me American training resources could be used much more effectively if our responsible agencies negotiated with Argentine agencies to exchange personnel, or perhaps teams of personnel, with some assurance that these would help satisfy some of the broader psychiatric needs of that country. Now especially, when there is emerging in the Argentine a new interest in the development of psychiatric services in general hospitals, perhaps ways could be found to train some of their younger men to prepare for full time career positions in general hospitals, in research or in psychiatric public health work. I think brief sojourns of visiting teams from our country would not only be well received and would help to train many young psychiatrists, but would provide useful opportunities for some of our psychiatrists to get the stimulus of new contacts, problems and ideas, and to cultivate an interest in the growing psychiatric work of our South American neighbors. Joint conferences or group training seminars could also provide very fruitful results at relatively little cost. I am sure that programs of this type would help to revive those good neighborly feelings which have not flourished in recent years.

THE TREATMENT PROGNOSIS FOR FUNCTIONAL PSYCHOSES IN GREAT BRITAIN

WILLIAM SARGANT, M.B., F.R.C.P., D.P.M.¹

Because modern methods of treatment of both schizophrenia and depression are now getting patients better much more quickly and with so much less chronicity, the Minister of Health has announced recently that within the next 15 years it should be possible to close no fewer than half the total beds in British mental hospitals, as well as treating most of the acute recoverable patients in much smaller psychiatric units attached to general hospitals.

How has this revolution in the treatment of the functional psychoses in Great Britain been achieved and why? Certainly, when the writer first entered psychiatry in 1934, such future top-level planning would have been quite inconceivable, and the position then was a very different one, even as regards the predicted treatment outcome of the most favourable cases of early schizophrenia and depression. However, it is now very often forgotten that in those days the only specialised methods of treatment available for such cases were the methods of Freud and Jung and some of the simpler forms of psychotherapy, while the only physical treatments were drugs such as the bromides and paraldehyde. In England, simply because there were then so few other treatments apart from the psychotherapeutic ones, and because a strong Freudian movement had existed in England since the end of World War I, psychotherapy and psychoanalysis were certainly tried in the treatment of selected functional psychoses as well as in the neuroses. However, their failure to cope with but a few of the enormous numbers of the mentally ill demanding urgent help at that time is now a matter of psychiatric history. And we also remember the truly deplorable state of British mental hospitals when psychotherapeutic and social methods of treatment were the only ones available to help so many thou-

sands of the mentally ill demanding urgent relief.

Before World War II, however, we saw a new treatment break-through with the advent of several fresh physical methods emanating from European clinics. The value of insulin coma, convulsion therapy, and lobotomy in the functional psychoses were all suddenly discovered and later widely used. World War II also provided British psychiatry with a further convincing demonstration of the effectiveness of physical methods of treatment, which by then included "front line" sedation, drug abreaction, continuous sleep, various forms of insulin therapy, electroshock treatment, and the like, in the handling of the enormous numbers of military and civilian psychiatric casualties, as compared to World War I when again only such methods as hypnosis and psychotherapy were usually available. As a consequence, millions of dollars in pensions have been saved the British Government in part at least because so much less chronicity has resulted from the treatment methods used in World War II compared to those of World War I.

These new treatment developments were then fortunately followed up with a return to peacetime psychiatry in Britain, and the resulting revolution is now becoming very obvious both as regards the prognosis and the duration of illness in patients with functional psychoses, which still fill the majority of mental hospital beds in every country in the world. But to obtain the full benefits from the use of all the newer physical methods of treatment now available, it is necessary to use them with courage, selectivity, skill, and a determination not to go on trying to pretend, as often happens in the U. S. A., that they are merely a second-best form of treatment, whose main value is to get a patient ready for the analytic couch or for other forms of specialised psychotherapy. This is especially the case at the present time when there are, in fact, so few psychotherapists available to help the

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thousands of patients in mental hospitals even in such comparatively wealthy countries as U. S. A. and Great Britain. In fact, the treatment revolution that has happened in England, and which may allow the closing of such tremendous numbers of its mental hospital beds, has all occurred with very little specialised psychotherapy proving necessary at all, or even being available if it were.

How greatly improved the treatment prognosis has become for the functional psychoses in Britain is also shown by the fact that the doors of most of the wards of mental hospitals can now be left wide open, and the majority of patients in them treated on a purely voluntary basis. But in many other countries and, unfortunately, in a few conservative or backward British mental hospitals, this is still not possible, simply because the uses of the newer methods of physical treatment have not been active enough, and there are far too many agitated and mentally tortured patients only awaiting opportunity to rush out and kill themselves because of the severity of their continued suffering. To have opened the doors of British mental hospitals, and of its general hospital psychiatric treatment units, when only psychotherapy and social treatments were provided for patients would have resulted in disaster, and would have led to a rapid discrediting of the whole system.

In fact, to get to our present favourable treatment position in Britain, around 15,000 lobotomies (mostly modified operations compared to the standard Freeman and Watt's technique) have already had to be done on our more chronically agitated and mentally distressed patients; and the tranquillizers have certainly proved to be no satisfactory substitute for modified lobotomies in so many of them. An official government enquiry has also just established that over 45% of over 10,000 lobotomised chronic patients in British mental hospitals have been able to be discharged, many of them also returning to work, while the relapse rate was much lower than expected. Since the introduction of the phenothiazines, this too has helped to stabilise still further some of the improvements seen after operations;

it has also helped to make lobotomy unnecessary in others.

Insulin coma, too, has had to be used since the war in practically all the mental hospitals in Britain to get these results, rather than simply giving long courses of EST even to recent, acute, and still recoverable schizophrenic patients. Now, fortunately, it seems that EST and the phenothiazines, when used together, are generally providing a better and more speedy remission in more patients than when insulin coma and EST were used. But additional modified insulin régimes are still having to be employed to restore body weight to normal in schizophrenic patients before their discharge from mental hospitals, and under the National Health Service, maintenance treatment with the phenothiazines is also provided following discharge, and indefinitely where necessary, to help to prevent relapse.

With the advent of the phenothiazines, it has also been shown that many acute schizophrenias can be treated in general hospital psychiatric wards with open doors, or even as outpatients in general hospital psychiatric units and day hospitals, provided that convulsion therapy, modified insulin, and the new tranquillizing drugs are all made available, and on an outpatient basis where necessary. The treatment time for an acute schizophrenic illness is consequently often being reduced to 8 weeks or less, compared with the months and years that it used to take to induce remissions in much smaller numbers of such patients, when psychotherapeutic and social methods were our only real treatments prior to World War II.

It has been the same in the treatment of moderate and severe depressions in Britain. The widespread use of outpatient EST, now often provided by general hospital psychiatric units under the National Health Service, the additional provision of modified insulin treatment where necessary, the selective use of the amphetamines, and the wide range of long- and short-acting barbiturates which are now available, and, when all else has failed, a final selective use of the newer modified forms of lobotomy, have made the long and agonizing depressive illnesses of the past a very rare occurrence. Furthermore, the newly increasing range of antidepressant drugs, which are bringing

so many of the anxiety states and the neuroses with depressive features within the range of simple chemotherapy, has made the treatment of the whole group of depressive illnesses quite unrecognizable compared to that prevailing only 25 years ago. Then it might take depressed patients months or years to get better, and so many of them eventually killed themselves or died of agitated exhaustion in mental hospitals, despite all the forms of therapy used to try to help them.

The writing has certainly appeared on the treatment wall in recent years for those prepared to read it. But in some countries like the U. S. A., the millions of dollars provided by the government and other wealthy foundations for psychiatric treatment research are still being concentrated too much on the "dynamic" psychopathologies and on psychotherapeutic approaches, which have proved so disappointing up to now in getting patients out of mental hospitals. This is difficult to understand since psychotherapeutic and analytic treatment has in fact as yet to prove its real worth even in the treatment of the more severe forms of neurosis. Meanwhile only a comparative pittance is being provided in various countries for research into the many possible physical and physiological treatments in psychiatry which have really brought about the recent therapeutic revolution wherever they have been fully and courageously used. Also, while the possibilities of these new methods of treatment of the mentally ill are still underdeveloped and comparatively in their infancy, it is likely that the possibilities of the psychotherapeutic and social treatments of both the psychoses and the neuroses have

already been fairly fully explored during the past 50 years. And, *when used alone*, it is almost certain that they will be found just as unable to get more than small numbers of patients out of mental hospitals in the future as they have been in the past.

Some people even in Britain have, however, tried to deceive themselves into believing that the present improvement in treatment prognosis has been due largely to the better social, individual and group psychotherapeutic treatment facilities that have also sometimes been available in recent years, along with the recent opening of the doors of our mental hospitals. Certainly all such procedures do help to supplement each other ; but one can quite safely predict that we would only have to give up the use of all the newer physical treatments for a very few months in Great Britain, and most of the doors of our mental hospitals and the wards of psychiatric units in general hospitals would have to be closed again, and the bars would go back on the windows because of the numbers in them trying to kill themselves during much more prolonged and intolerable illnesses. Conditions would speedily revert to those seen when social and psychotherapeutic methods are given too much prominence and prestige at the expense of the full use of the newer physical treatments. It is only these latter that have made possible the revolution that has occurred in the prognosis for the recoverable psychoses in Great Britain today ; and they have also helped to give less effective social and psychotherapeutic methods an added value which they could never have hoped to have obtained in their own right.

MENTAL DISEASE OR DEFECT EXCLUDING RESPONSIBILITY¹

A PSYCHIATRIC VIEW OF THE AMERICAN LAW INSTITUTE : MODEL PENAL CODE PROPOSAL

LAWRENCE ZELIC FREEDMAN, M.D.,² MANFRED GUTTMACHER, M.D., AND
WINFRED OVERHOLSER, M.D.

It is a truism that in any decision making process the freer the flow of relevant information the greater the chances that the decision will be rational and just. Any impediment to pertinent communication increases the probability that irrational or, in the court of law, unjust decisions will be made. The clinical insights of psychiatry can accurately reflect the state of its knowledge and be efficiently utilized by courts only when the procedures for testifying do not suppress or distort the information. The fewer the restrictions imposed on the psychiatrist testifying in court, the greater the resources upon which the courts can draw.

Decisions concerning the legal criteria for excluding responsibility obviously belong to other members of this Committee. The considerations which we are presenting arise from and are restricted to our area of training, competency and primary interest—mental disease and mental defect. Only so far as the proposal attempts to incorporate psychiatric disease need the Committee grant our advice any more weight than that of other interested laymen. However, so far as it does, we think it reasonable to hold that the unanimous opinion of the three psychiatric members of the Advisory Committee ought to be weighed as representative of the thinking of many of our colleagues in psychiatry upon whom the success of any formula depends.

There is now a body of experience based on the history of the MacNaughton formula which may guide us to avoid a repetition of difficulties arising from earlier efforts. For example, a serious impediment to meaning-

ful communication between psychiatrists and lawyers in the MacNaughton formula is the psychiatrists' mistaken assumption that MacNaughton makes an attempt to define insanity which they consider in error. Lawyers see it as a statement of the conditions under which an accused person might be exculpated from guilt and from being stigmatized as a criminal.

The traditional reluctance of psychiatrists to testify in courts under the MacNaughton formula arises in large part from the frustration of language which the law requires of them. Many lawyers have failed to realize that freedom of psychiatric testifying is not identical with extension of psychiatric concepts in the procedures and decisions of the courts. Courts can only benefit from having the greatest possible clarity of exposition of psychiatric testimony, no matter what standards it sets for responsibility.

Section Four of the Model Penal Code of the American Law Institute,³ devoted to Responsibility, has a dual function: It sets up the criteria by which, according to law, mental disease or defect may exclude responsibility. Responsibility is not a qualitative or quantitative intrinsic attribute of a person; it is, in this context, a legal judgment. Since, however, "the deed does not make the criminal unless the mind is criminal," the state of mind must be ascertained and a pathological state of mind is a psychiatric problem. However, the gauge for determining legal exculpa-

³ The proposed American Law Institute formula: Section 4.

1. A person is not responsible for criminal conduct if at the time of such conduct as a result of mental disease or defect he lacks substantial capacity either to appreciate the criminality of his conduct or to conform his conduct to the requirements of law.

2. The terms 'mental disease or defect' do not include an abnormality manifested only by repeated criminal or otherwise anti-social conduct.

¹ This is the minority report of the psychiatric members of the Advisory Committee to the American Law Institute preparing a Model Penal Code.

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tion is not suitable for the differential diagnosis of psychiatric disability.

So, Section Four also sets up standards, it guides, and it limits the communications of the psychiatrists concerning mental disease and defect to the judge and the jury who are to make the legal decision. It is this second and to some extent competing function which concerns us. Confusion arises from this paradoxical effort to combine in one formula: 1. The criteria by which the courts will hold a man not legally responsible (*i.e.*, punishable) and 2. The conditions for the exposition of the psychiatrist's knowledge.

The question clearly should be: How may the courts optimally elicit testimony from the psychiatrist concerning psychopathology so that its own legal question concerning responsibility may be answered with maximum information at its disposal?

The two major formulae, competing to supplant MacNaughton, are the proposed American Law Institute prescription and the Durham Decision.⁴ In our view both are refreshing and encouraging advances over MacNaughton and reveal significant agreement. The similarities between them might be summarized as follows: 1. Each is intended to free from responsibility a man who has committed an illegal act which is the result of, or the product of, mental disease or defect; 2. Each includes mental pathology—illness, disease or defect; 3. Each rejects exclusively cognitive or intellectual approach; 4. Neither formula, presumably, is primarily concerned to define mental illness but rather to indicate what degree of severity of mental illness protects an individual against the punitive and stigmatizing impact of criminal law; 5. Each incorporates the concept of causality, with the words "product of" and "as the result of." Both "product" and "result" refer to the cause. Cause is the circumstance, condition, event, which necessarily brings about or contributes to a result.

Within this framework we state our reservations concerning the American Law Institute formula. We hold that the subtlety,

complexity and obscurity of its psychological entities and its actual intrusion into the field of psychiatric diagnosis unnecessarily limit the contributions of psychiatry, present and potential, and needlessly restrict the medical and psychological resources upon which the court may draw. The legal requirements concerning appreciation of criminality and conformance of conduct and the negative definition that repeated criminal or otherwise antisocial conduct is not mental disease effect a gratuitous entrance into medical and scientific arenas which is unnecessary and may be harmful to the law's purposes.

Specifically, "substantial" and "capacity" are psychologically vague, ambiguous, unclear and complex quantitative concepts. More important, "to appreciate the criminality" is an involved cognitive phrase at least as likely to lead to confusion as "knowledge of right and wrong." Further, since criminality is an illegal act *with an accompanying mental state*, is there not a logical inconsistency or tautology here? For if the offender cannot "appreciate the criminality," then his act is not criminal, and if it is criminal then he must have "appreciated" it.

"To conform his conduct to the requirements of law" is an inverse restatement of irresistible impulse which has proven to be an almost unusable defense. To lack "substantial capacity to conform his conduct to the requirements of law" is to have an irresistible impulse.

The terms "mental disease and defect" specifically exclude "an abnormality manifested only by repeated criminal or other antisocial conduct." To refer to mental disease and then to limit its meaning is to rob the court of the worth of the psychiatrist's expertness precisely to the degree that it limits his ability to transmit clinical information. It predisposes to failure in communication. The phrase "mental disease or defect" should serve as a focus for the communication and description of the combined behavior, feeling, ideas, of a person so as to inform judge or jury.

If the courts wish to determine whether mental disease or defect exists, then the law must use not only the semantics but the substance of psychiatry. It cannot, for example, meaningfully adopt psychiatric

⁴ Durham Decision: An accused is not criminally responsible if his unlawful act was the product of mental disease or mental defect. [94 U. S. App. D. C. 228, 214F2d862 (1954)]

words, and then appropriate to itself the right to establish psychiatric diagnosis criteria even by exclusion. It legally excludes forms of behavior which may themselves be symptomatic of pathology, for antisocial behavior may *be* the manifestation of illness. Repeated illegal or antisocial conduct is a manifestation of a personality, and this personality may be a sick one. There is a quality of behavior referred to as alloplastic, most commonly found in the psychopathic personality in which the symptom of psychopathology consists in the *acting out*. The manifestation of a man's abnormality may consist precisely in his repeated or otherwise antisocial conduct. To exclude such conduct from "mental illness" is to make a psychiatric judgment eliminating behavioral or conduct disorders.

Apparently there is no insistence on legal formulae in diagnosing physical diseases, so why in this case? If the physician were similarly forbidden to use one outstanding symptom as criterion for physical illness, the absurdity of such an approach would become apparent, or if he were limited to two tests it would be considered unscientific.

If the intent is to exclude the so-called psychopathic personality from irresponsibility, it is hard to see how it can succeed in this way. If the Committee does not want to excuse as psychiatrically ill individuals the so-called psychopathic or sociopathic personality, this formula will not serve that purpose, for its use depends upon the testimony of psychiatrists; those who consider

psychopathic or sociopathic personality a mental disease or defect will so testify and those who do not will not.

In summary, essentially the Model Penal Code formula has added to the cognitive criteria volitional criteria. It has eliminated behavioral criteria except when they are combined with other phenomena.

The Durham Decision permits free communication of psychiatric information and the American Law Institute creates road blocks to such transmission. The Durham formula puts no limitations on psychiatric testimony except those which are implicit in the present state of the discipline. The American Law Institute formula requires psychiatric judgments as to substantial capacity, demands essentially cognitive criteria concerning capacity to control, and insists upon including legal criteria in the old tradition by attempting to eliminate the psychopathic personality.

Neither the Model Penal Code nor the Durham formula resolves the problems of psychiatry; no legal formula can. Psychiatry is an incomplete scientific and medical specialty. Indeed all medicine and science are developing and hence are incomplete. This is reason to encourage its contribution rather than to emphasize its limitations in the courts.

For these reasons, we recommend the adoption of the historic practice of the New Hampshire Court as recently reformulated in the case of *Monte Durham*.

THE PROGNOSIS IN UNPSYCHOANALYSED RECOVERY FROM NEUROSIS

JOSEPH WOLPE, M.D.¹

Psychoanalysts have contended that, in general, recovery from neurotic disturbance is not likely to be stable and enduring unless the patient has undergone psychoanalytic therapy. For example, Fenichel(5) asserts that "there is no doubt that psychoanalysis, as the only radical method is the best method available for the treatment of neuroses"; and since other methods leave the neurotic roots untouched, their effects are "unreliable." In like vein, Hendrick(10) attributes the results of other methods of therapy either to suggestion or to positive transference and regards them as symptomatic and temporary, and when due to transference, "dependent upon maintenance of rapport with the therapist." If, and only if, such statements can be substantiated can psychoanalytic therapy, with its great expenditure of time and money, be regarded as the treatment of choice for patients suffering from neurotic symptoms.

Yet, apparently, these confident assertions have not been supported by anything other than anecdotal testimony. To establish the position, statistical evidence is essential. It is not sufficient that here and there a nonanalytically treated case relapses; it is necessary to demonstrate that neurotic reactions, overcome without the use of analytic methods, will *usually, or at least often*, recur or be replaced by other neurotic reactions.

The psychiatric literature contains a good deal of data relevant to this issue. Such data, without exception, contradict the belief that recrudescence is common when neurotic reactions have been overcome without psychoanalysis. In a follow-up study of apparently cured or much improved neurotic patients who had been treated at New York Hospital by methods that included some interpretative psychotherapy but not psychoanalysis, Hamilton and Wall(9) found that 51 of 53 male patients had

maintained their improvement for 4 years or more; and Hamilton, Varney and Wall (8) made the same observation regarding 66 of 67 females followed up 5 to 15 years. In a survey of 500 miscellaneous cases from the Tavistock Clinic, Luff and Garrod(13) noted that discharged as "much improved" were 72 cases of anxiety state, 13 of hysteria, 9 obsessional, and 5 cases of reactive depression, after treatment that was usually "comparatively short," consisting of re-education and explanation of symptoms. Three years later, the numbers "much improved" in each of these diagnostic groups had actually risen slightly. In line with these observations, I have reported(21) that relapse was noted after 2-7 years in only one of 45 neurotic patients who had been treated by methods based on learning principles. Similarly, Stevenson(17) found no evidence of relapse in any of 12 patients rigorously followed for periods ranging from 1-5 years. Adding these figures together, we find 4 relapses out of a total of 249 patients, or less than 2%.²

PRACTICAL IMPLICATIONS

Most patients come for treatment of neurotic illness because they desire to be relieved of the suffering and attendant disabilities. The therapist's first task is to decide what form of treatment to advise. The belief is widespread that psychoanalysis is the only "causal" treatment and should therefore, as a general rule, be recommended when available to patients who can afford it. Insofar as this belief depends upon the presumption that the results of nonanalytic treatment are impermanent or provisional, it is undermined by the evidence presented above, that heterogeneous methods of psychotherapy achieve remissions of suffering whose reliability can scarcely be bettered; and it is not impossible that

²It is consonant with this that Wallace and White(18) have recently presented data confirming the casual observation that neurotic patients often recover lastingly without having had any formal therapy.

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measured by this yardstick psychoanalytic therapy might actually prove to be inferior! It is relevant that Freud(6) describes two cases (and refers to "a large number of similar ones") in which symptoms recurred several years after the end of successful analysis. (To say, as some analysts may, that the relapses show that these analyses were not *really* successful or were incomplete, merely begs the question.)

However, even though considerations of durability of effects do not establish a preferential position for analytic therapy, its prodigal expenditure of time and treasure might still be justified if the *percentage* of patients to obtain benefit were substantially greater than with other methods. But comparison(3) of various reported series of patients has not shown that psychoanalysis produces marked amelioration of neurotic reactions any more frequently than various traditional therapies do. Moreover, recently developed methods of therapy based on principles of learning(20, 21, 4) appear to be producing a very significantly higher proportion of recoveries than either psychoanalysis or the traditional therapies.

In the light of these facts, what is to be said of the contention that nonanalytic therapies merely treat symptoms and "do not get to the root?" This contention is true only if the psychoanalytic theory of neurosis holds good—an assumption which we shall dispute in the final section of this paper. It is, of course, possible "merely" to treat symptoms—for example, by giving the patient a sedative. But if the truth should be that neuroses are persistent unadaptive habits of reaction and that symptoms are simply the evoked reactions, then to remove the habit will remove the symptom lastingly, by removing its basis. In short, anxiety that is a conditioned response can be permanently removed by deconditioning; which would not be expected of anxiety that is part of a "defense mechanism."

It seems reasonable on the available evidence to conclude that for patients whose sole requirement of treatment is *to be lastingly freed of neurotic symptoms*, there are no grounds for regarding psychoanalytic therapy as the treatment of choice: in fact, its inordinate length places it low in recommendability.

Of course, analysts claim effects for their therapy that go beyond symptom removal. It is credited with a unique capacity to bring about changes characterized by such terms as "maturation" or "balanced integration." When these terms are adequately defined, it will become possible to examine whether or not psychoanalysis is a superior method of bringing about the changes specified. In any event, such changes should surely be sought after only in those who desire them: they should not be represented as prerequisites to lasting recovery from neurotic symptoms.

THEORETICAL IMPLICATIONS

(a) *Implications for Freudian theory.* The erroneousness of the psychoanalytic prediction with regard to patients who recover without psychoanalysis has theoretical implications that are at least as important as the practical ones. Some of the most basic tenets of psychoanalytic theory are placed in grave doubt by the failure of this particular prediction. As will be seen, this applies as much to recent modifications of the theory as it does to Freud's own formulations.

In general terms, Freud's theory of neurosis is that neurotic symptoms are outward manifestations of emotional forces that have been repressed, and constitute compromises between partial discharges of these forces and various "defensive forces" that resist discharge. In a summary of his position in 1922, Freud wrote(6):

The neuroses are the expression of conflicts between the ego and such of the sexual impulses as seem to the ego incompatible with its integrity or with its ethical standards. Since these impulses are not *ego-syntonic*, the ego has *repressed* them . . . But the achievement of repression fails particularly easily in the case of the sexual instinct. Their dammed-up libido finds other ways out from the unconscious . . . What results is a *symptom* . . . Symptoms are in the nature of compromise-formations between the repressed sexual instincts and the repressive ego instincts . . .

The therapeutic results of psychoanalysis were to be achieved through making the repressed impulses conscious, overcoming the "resistances" that arose to thwart this.

Freud claimed to have shown that "... the essential part of the process of cure lay in the overcoming of these resistances and that unless this was achieved no permanent mental change could be brought about in the patient" (6). He maintained this position to the end of his life stating, for example, in 1937: "The therapeutic effect of analysis depends on making conscious what is, in the widest sense, repressed within the id" (6).

These statements of the essential tasks of analytic therapy are a direct and obvious corollary of Freud's theory of neurosis; and go hand in hand with the proposition that lasting recovery from neurotic disorders is not to be expected without the work of analysis having been effected. Now, it has turned out to the contrary, that remission of neurotic symptoms obtained without the use of analytic procedures is almost always lasting. In other words, what psychoanalytic theory holds to be necessary for enduring recovery is in fact not necessary. Does this imply that what the theory proposes as the basis of neurosis is in fact not the basis?

This conclusion would seem an exceedingly likely one in any instance in which the requirements for cure are dictated by a causal hypothesis. To take a case analogous to that at issue: suppose that many years ago, before the etiology of malaria was established, the hypothesis had been put forward that plasmodia play a necessary part in the cause and maintenance of the disease. It would have seemed to speak strongly against this hypothesis if (in contrast to what was actually found) it had turned out that patients regularly became permanently free from symptoms while the live parasites continued to populate their blood cells. Nevertheless, the causal role of the parasites could not have been absolutely excluded on this finding alone. It might have been suggested that they were encapsulated, for example.

In the field of neurosis theory, Freudians aware of the fact that symptoms may disappear without analysis have proposed that this may be the result of increasing or deepening repression. But it is consistent with their theory that they do not regard such disappearance as likely to endure. Fenichel (5) states that when therapy has produced re-

pression of symptoms, "the pressure of the repressed will necessarily be increased and sooner or later new symptoms will be formed." Since permanent repression is not seriously entertained by the theorists, insofar as our evidence demonstrates failure of new symptoms "sooner or later" to appear, it seems to render abandonment of the repression theory almost inescapable. If the alleged unresolved repressed permanently fails to produce symptoms, then either it has no real existence or it is irrelevant to symptoms.³

There are factual as well as theoretical considerations that discourage the invocation of permanent "repression" as a way out of the Freudian dilemma. The theory expects some disadvantage for the patient with intensified repression in comparison with patients in whom analysis has brought about a "real undoing of the pathogenic defenses" (5). However, studies that have broadly compared the results of psychoanalysis with those of other methods have not indicated any superiority in the *quality* of cures obtained by psychoanalysis (12, 19). Two recent reports of the therapeutic experiences of individual psychoanalysts tend to confirm this finding. Stevenson (17) noted that a group of his patients who were treated by direct instigation of changes in behavior did not seem in any respect worse off than others whom he treated by psychoanalysis. Ellis (3) presents data showing that his results improved increasingly the further he deviated from psychoanalytic methods.

(b) *Do variants of Freudian theory offer a way out?* Modern deviations from Freudian theory (e.g., Horney (11) Fromm (7), and Alexander (1)) are mainly in the direction of giving greater importance to unconscious conflicts related to the immediate situation of the patient. Horney (11) denies that there is an actual persistence of

³ The whole of the foregoing discussion may make it appear that I accept the regular occurrence of repression in neurosis but doubt its causal role in producing symptoms. The truth is that I believe that something resembling repression occurs only rarely. The general tenor of my argument is: even if we assume that repression is a universal concomitant of neurosis, it fails to account for the facts concerning recovery from neurotic symptoms.

repressed infantile wishes and fears, and holds that what is preserved is a character trend based on the early experiences. She believes *current* conflicts are repressed to defend the patient from pain. But the basis of neurosis is still repression, and procedures that deal with "defenses" remain the essence of therapy for her. While Fromm(7) emphasizes the influence of socio-economic factors on personality, his dynamics of individual neurosis remain basically Freudian. Alexander(1) gives importance to insights or semi-conscious consolidations of insight that follow on the interpretations made during therapeutic sessions.

These examples reflect deviations in matters of detail, not principle. The road to recovery is always by way of dealing with the defenses that keep the repressed unconscious. Ruth Munroe(15) states the following to be common to the therapeutic approaches of Adler, Horney, Fromm and Sullivan :

The crux of the therapeutic process for these schools as well as for the "Freudians," may be stated as the development of *insight*. This does not mean, of course, mere *intellectual* appreciation of the complex of conscious and unconscious patterns operating on one's personality ; it means the actual *experiencing* of aspects of one's personality which have been made *defensively* unconscious.

These modifications of Freudian theory thus do not render it any less vulnerable to our observations than the original theory. It seems just to say that if freedom from symptoms is almost invariably lasting when procured without the use of analytic methods, *painful unconscious conflicts are almost certainly not the fountainhead of neurotic symptoms*. This is no startling conclusion when the weaknesses of psychoanalytic theory construction are realized(22).

(c) *Implications for a theory of neurosis as a phenomenon of learning*. In recent years, a theory has been proposed according to which neuroses are persistent unadaptive learned (conditioned) reactions acquired in anxiety-generating situations(4, 20, 21). Experimental neuroses corresponding to this definition have been produced in animals by subjecting them, while in confined space either to ambivalent stimulus situa-

tions (e.g., Pavlov, 16) or to noxious stimulation(14, 21). Enduring habits of disturbed reaction to definable stimulus situations are produced. These habits can be systematically eliminated if conditions are so arranged that the neurotic response can be inhibited on repeated occasions by the simultaneous elicitation of an incompatible response that is "stronger" than the neurotic response.

The regularity with which the neurotic responses can be eliminated in this way led to the formulation of the general hypothesis that *if a response inhibitory to anxiety can be made to occur in the presence of anxiety-evoking stimuli so that it is accompanied by a complete or partial suppression of the anxiety response, the anxiety response habit will be weakened*. This hypothesis has been tested in relation to human neurotic habits of response, counterposing to anxiety in suitable contexts a variety of responses (e.g., deep muscle relaxation), that are physiologically antagonistic to anxiety. It has been found that, as in the animal experiments, progressive decrements occur in the strength of anxiety responses to relevant stimuli. In terms of outcome, in 3 successive series of neurotic patients, comprising a total of 210, the percentage either apparently cured or much improved has consistently been about 90(21).

These therapeutic observations support the view that neurotic behavior is a particular case of learned emotional behavior with special features(20, 21) and removable by unlearning. Such unlearning occurs whenever neurotic responses are inhibited by incompatible responses ; and this may happen whether by design or not in *any kind* of therapeutic interview situation and *also* in the life situation. It is apparently because interviews of all kinds generate emotional responses inhibiting anxiety evoked by verbal stimuli that similar percentages of favorable results are obtained by a large variety of therapies other than therapy based on principles of conditioning (21).

Our theory postulates, in accordance with experimentally established knowledge about learning, that once a neurotic habit of response to specified stimulus conditions has been eliminated, such elimination is perma-

nent unless the habit is reinstated by specific new conditioning (learning). The facts revealed in the follow-up studies reviewed in this paper favor this postulate.

SUMMARY

A survey of follow-up studies comprising 249 patients whose neurotic symptoms have either ceased or improved markedly after psychotherapy of various kinds other than psychoanalysis shows only 4 relapses (1.6%). This evidence contradicts the psychoanalytic expectation of inferior durability of recoveries obtained without psychoanalysis and does away with the chief reason for regarding analysis as the treatment of choice for neurotic suffering. The facts presented have gravely damaging implications for the whole psychoanalytic theory of neurosis, but accord with a theory based on principles of learning.

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DIFFERENTIAL ASSESSMENT OF POSTHOSPITAL PSYCHOLOGICAL FUNCTIONING : EVALUATIONS BY PSYCHIATRISTS AND RELATIVES ¹

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A previous paper dealing with psychiatric orientation and its relation to diagnosis and treatment in a mental hospital indicated that (a) great inter-ward variability existed in the diagnoses made of patients even though patients were assigned to the different wards almost solely on the basis of available bed space, (b) diagnoses of patients on the same ward varied considerably with changes in administrators on the ward, (c) psychiatric orientation rather than patient behavior accounted for much of the variability in diagnoses, and (d) the differences in diagnosis were reflected in the care and treatment provided patients(1).

This paper is concerned with the same problem of variability of diagnosis and its significance but from another point of view, and in circumstances in which psychiatric orientations are similar or minimally divergent.

In this study 287 female patients consecutively released from a mental hospital have been studied 6 months after hospital discharge. Patients and their significant others were interviewed in an attempt to determine factors associated with success or failure in outcome and with the level and adequacy of patient performance. Apart from rehospitalization, the 3 principal measures of case outcome have been psychological functioning, domestic role performance and the extent and types of social participation of former patients. Social factors thought to be importantly related to case outcome and deserving of empirical testing have been such variables as the family situation of the former patient, living arrangements, social class, degree of deviant behavior by significant others, the expectations of significant others and the like(2).

In order to have an evaluation of the level or adequacy of posthospital patient functioning, independent of that derived from the significant other, a random sample of former patients was asked to cooperate by presenting themselves for a psychiatric interview. Two hospital psychiatrists were involved in these evaluations, and former patients were assigned to one or the other purely by chance. Neither psychiatrist was aware of the patient's previous history except as he may have deemed it advisable to ascertain this during the course of the interview.

The results of these evaluations will be presented in this paper. First, the 2 psychiatrists will be compared with each other in terms of (a) their Lorr Psychiatric Scale ratings for the patients they interviewed, (b) their specifications of the degree of impairment of the patients they saw, and (c) their diagnoses of these patients. The latter will be compared with the diagnoses given the patients at discharge. Second, the ratings and evaluations regarding the adequacy of functioning of each patient given by each of the psychiatrists will be compared with similar ratings given the patient by her significant other. In other words, the perceptions and insights of the psychiatrists will be contrasted with those provided by husbands or other significant others. This will also serve to retest our previous finding that the psychiatrist generally specifies a greater degree of impairment for the patient than does her significant other(3).

METHOD

In an 8-month period, December, 1958, through July, 1959, the Columbus Psychiatric Institute and Hospital, a short-term, intensive therapy institution, discharged 376 female patients. Of these, 89 were either returned to communities outside the 13 county areas served by the hospital or were reinstitutionalized within 15 days after dis-

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charge. This left 287 cases who were followed in the community. Of the 287 former patients, 41 or 14% were reinstitutionalized within 6 months after hospital release. The remaining 246 cases represent the pool from which 119 were requested, on a random basis, to return for a psychiatric assessment. Despite a great deal of encouragement, only 65 of the 119 or 54.6%, cooperated in the psychiatric re-evaluation program.

The 65 re-evaluation patients were found to be similar to the 54 refusal cases in almost every respect in which available data permitted comparison. These included 16 hospital variables, *e.g.*, diagnosis, previous admissions, an impairment rating at admission and one at discharge, hospital treatment and outpatient treatment. The 2 groups were also similar in their social background characteristics including age, social class standing, education, religion and size of community in which they resided. They differed only in their marital status. The re-evaluation cases included a significantly greater percentage of married women (70%) than did the refusal cases (41%). In addition, on none of the variables—pre- and post-hospital and social background—did the re-evaluation subjects differ from the 127 cases who were not selected to participate in the psychiatric assessments. This would lead to the conclusion that no appreciable selectivity characterized the psychiatric assessment cases or differentiated them from the refusals or those not involved in this aspect of the outcome study.

Minimal differences existed in the orientations towards diagnosis and treatment of mental patients and towards the etiology of mental disorders in the 2 hospital psychiatrists who participated in the psychiatric assessments. One of the psychiatrists saw 39 former patients, the other 25 former patients. This difference was due wholly to scheduling and time factors since patients were assigned randomly to them.

Each of the physicians interviewed the patients without prior access to case materials. At the conclusion of the interview, which usually exceeded 1 hour in duration, a Lorr Psychiatric Rating Scale form, Part I, was filled out by the examining physician. In addition, the psychiatrist also rated the degree of psychiatric impairment character-

izing the patient as he perceived it at the time. The degree of impairment ranged from 0-100. Finally, the physician specified the diagnosis to be given the patient. Diagnoses ranged from no mental illness present through the usual psychiatric categories.

The major instrument, the Lorr Psychiatric Rating Scale, Part I, contains 42 items pertaining to behavioral and psychological functioning. Each item presents the possibility of rating the degree of variation from a "norm" population. The total norm score is 48.5.

We departed very slightly from the procedure specified in the manual of instructions. Two items, 14 and 26, which deal with physical disability were excluded. Our total score, based on discrepancies from the item norms, became 40 for no visible impairment to 151 for complete and total disability. Also omitted from analysis were the factor scores since these served no useful purpose in this particular study.

In addition to the ratings derived from the psychiatric interviews, relatives (usually husbands) had previously evaluated the psychological functioning of the patients. Each significant other had rated the patient on 32 items of psychological functioning, of which 17 paralleled those in the Lorr Scale. Hence, it is possible to relate skilled psychiatric judgments on these items to those of the less skilled but more familiar ones of the significant others.

FINDINGS

Inter-Psychiatrist Ratings: Although the patients seen by the 2 psychiatrists did not appear to differ from each other either in terms of objective criteria or in the perceptions of their significant others, they were evaluated differently by these psychiatrists. One (A) rated his 25 patients as being more ill than did the other (B) who evaluated 39 patients. The patients of the former received an average Lorr Scale score of 57.1 while the latter averaged 49.1, a difference which is statistically significant. Of the 40 individual items, psychiatrist A indicated that his patients departed more from the norm on 26 items, less on only 12 items and not at all on 2 items, compared with the patients of the other psychiatrist. On 12 of the 40 symptom items, the patients of

TABLE 1
Percentage of Patients Rated by Two Psychiatrists as
Exhibiting Each of Forty Symptoms

LORR SCALE ITEM	PSYCHIATRIST A	PSYCHIATRIST B	P	LORR SCALE ITEM	PSYCHIATRIST A	PSYCHIATRIST B	P
Non-relevant responses	36	21	—	Preoccupation with health	76	23	.01
Stereotyped posture	8	0	—	Hallucinates voices	0	13	—
Inconsistent feelings	16	26	—	Mumbles to self	0	0	—
Time disorientation	0	3	—	Mood swings	60	31	.05
Tense and nervous	60	33	.05	Irrational impulses	20	3	—
Feels guilty	24	15	—	Unrealistic self estimation	72	36	.01
Speed of reaction	48	36	—	Hallucinates persons	0	5	—
Talkativeness	44	31	—	Frequent hallucinations	0	0	—
Manneristic movements	8	3	—	Word fixations	0	3	—
Behavior controlled by others	8	5	—	Speech impediment	12	15	—
Logically inconsistent speech	12	21	—	Exaggerated opinion of self	20	3	—
Hostility	92	39	.01	Inappropriate personal restraint	76	23	.01
Morbid fear	48	26	—	Place disorientation	0	3	—
Person disorientation	0	3	—	People against her	36	8	.02
Disturbed by hostile impulses	8	13	—	Extreme emotional tone	24	46	—
Anxious and apprehensive	96	80	—	Suicidal thoughts	20	21	—
Obsessive thoughts	48	31	—	Extreme emotional response	80	26	.01
Use of somatic complaints	64	21	.01	People talk about her	36	8	.02
Intensity of speech	36	10	.02	Implausible ideas	24	5	—
				Perplexed by problems	36	23	—
				Fear of future	76	23	.01

psychiatrist A were rated significantly more deviant than those of the other psychiatrist. As indicated in Table 1, twice as many of the patients rated by physician A were tense and nervous, deviated from the norm on hostility, showed pronounced mood swings, and indicated an unrealistic self estimation. Compared with B, psychiatrist A found 3 times as many of his patients made use of somatic complaints to get attention or control others, were preoccupied with their health, were too loud or inaudible in their speech, and feared the future. Other symptom differences were of the same or greater magnitude.

This analysis would seem to indicate that the 2 raters were emphasizing different aspects of behavior or symptoms and that one was systematically specifying greater impairment than the other and perhaps a less

optimistic prognosis. Such, however, was not the case. When asked to rate the psychiatric disability of their patients on a scale ranging from 0-100, it was psychiatrist B, and not A, who specified the greater impairment. Thus, physician A indicated an average disability rating of 25% while the average impairment rating given the patients by physician B was 29%. This reversal, though not statistically significant, would indicate that clinical judgment involves more than simply rating symptoms. It involves a weighting and an order which is superimposed on what is actually seen. Consequently the difficulty is obtaining reliability among qualified raters.

During the course of their hospital stay, 64% of the 25 patients of psychiatrist A and 54% of the patients of psychiatrist B had been diagnosed as psychotic. Schizophrenics

accounted for 28 and 33% of their respective patients. Six months after discharge, physician A found no visible signs of mental illness present in 20% of the cases and physician B in 18% of his patients. The percentage of psychotics in the 2 populations were 44 and 43% respectively and 16 and 23% of the 2 populations were classified as schizophrenics. No pronounced shifts occurred in the diagnoses given the patients 6 months later except for the nearly one-fifth in each group now designated as not being mentally ill. Further, there is nothing in this area of diagnosis sufficient to account for the discrepancies of the two physicians on the Lorr Scale ratings of the patients. If anything, the patients of psychiatrist B should have been somewhat higher in disability score since the percentage of schizophrenics among his patients was slightly greater.

Psychiatrist-Significant Other Ratings: Prior to their psychiatric re-evaluations, each of the patients had been rated by their significant other (usually the husband) on a 32 item scale of psychological functioning. Most of these 32 symptoms or behavior items were derived from the Lorr Scale, Parts I and II, although their wording was changed so as to be more comprehensible to laymen without specialized knowledge. Seventeen of these symptom items are directly comparable in the ratings of significant others and of the 2 psychiatrists.

The findings indicate (a) that the significant others of the patients later evaluated by either psychiatrists A or B, did not differ in their appraisals of these patients, (b) that when they differed significantly from the significant others, psychiatrist A tended to rate his patients as more deviant from the norm than did their relatives, and (c) that in the case of psychiatrist B, the opposite prevailed. The relatives of his patients specified more frequent impairment on the symptom items on which they differed greatly.

A. Significant Other Comparison: Table 2 indicates that the significant others of the patients of psychiatrist A perceived their relatives as functioning at about the same level of impairment as did the significant others of the patients of psychiatrist B. According to their relatives, more of the patients of psychiatrist A were malfunctioning, on 9 items, fewer on 7 items, and no dif-

ference could be found on 2 items. The pattern of impairment seemed wholly comparable for the 2 groups.

TABLE 2

Significant Others' Ratings of Patients Seen by Two Psychiatrists, in Percentage of Patients Manifesting Symptom

	SIGNIFICANT OTHERS OF PATIENTS RATED BY A	SIGNIFICANT OTHERS OF PATIENTS RATED BY B	P
Non-relevant responses	20	15	—
Stereotyped posture	20	8	—
Person, place, time dis-orientation	8	8	—
Tense and nervous	64	79	—
Feels guilty	20	26	—
Behavior controlled by others	24	18	—
Disturbed by hostile impulses	8	5	—
Use of somatic complaints	8	8	—
Preoccupied with health	40	46	—
Hallucinates voices	12	5	—
Mumbles to self	8	10	—
Hallucinates persons	8	5	—
Extreme emotional tone	44	62	—
Suicidal thoughts	8	5	—
People talk about her	24	26	—
Fears' future	28	36	—
Worries about bodily organs	24	23	—

B. Psychiatrist A and Significant Others: Since the 2 psychiatrists were found to differ in their evaluations of patient functioning, it was necessary to compare each individually with the significant others of the patients he interviewed.

Table 3 presents a comparison on the same 17 symptom items for psychiatrist A

TABLE 3

A Comparison of the Percentage of 26 Patients Seen by Psychiatrist A and Rated by Significant Other as Exhibiting Each Symptom

	SIGNIFICANT A	PSYCHIATRIST OTHER	P
Non-relevant responses	36	20	—
Stereotyped posture	8	20	—
Person, Place, Time disorientation	0	8	—
Tense and nervous	60	64	—
Feels guilty	24	20	—
Behavior controlled by others	8	24	—
Disturbed by hostile impulses	8	8	—
Use of somatic complaints	64	8	.01
Preoccupied with health	76	40	.05
Hallucinates voices	0	12	—
Mumbles to self	0	8	—
Hallucinates persons	0	8	—
Extreme emotional tone	24	44	—
Suicidal thoughts	20	8	—
People talk about her	36	24	—
Fears future	76	28	.01
Worries about bodily organs	76	24	.01

and the significant others of his patients. There are only 4 symptom areas in which disagreement occurs which could not be attributed to chance. In each instance the qualified rater specifies the greater disability. Three of the items deal with the patients' somatic complaints and the fourth with apprehension about the future. It can only be surmised in interpreting these ratings, that the psychiatrist was greatly concerned with the somatic condition of the patient in relation to other facets of post-hospital functioning. It may also be that significant others do not consider somatic ailments to be important in mental illness. On the major symptoms associated with mental illness, only minor and random discrepancies existed between psychiatrist and significant other. Finally, the correlation between psychiatrist A and significant others, using the entire 40 item Lorr Scale score and

the 32 item psychological functioning index was $+ .71$ —a very high and significant correlation which, as already indicated, would have been even higher except for differences in the somatic conditions section of the indices.

C. Psychiatrist B and Significant Others: While one pattern of differences emerged in the ratings of psychiatrist A as opposed to the significant others of his patients, another type of pattern was found to characterize the ratings of psychiatrist B and patients' significant others. First, psychiatrist B tended to perceive less malfunctioning in these symptom areas than did the significant others. This finding is presented in Table 4.

TABLE 4

A Comparison of the Percentage of 39 Patients Seen by Psychiatrist B and Rated by the Significant Other as Exhibiting Each Symptom

	PSYCHIATRIST B	SIGNIFICANT OTHER	P
Non-relevant responses	21	15	—
Stereotyped posture	0	8	—
Person, Place, Time disorientation	3	8	—
Tense and nervous	33	79	.01
Feels guilty	15	26	—
Behavior controlled by others	5	18	—
Disturbed by hostile impulses	13	5	—
Use of somatic complaints	21	8	—
Preoccupied with health	23	46	.05
Hallucinates voices	13	5	—
Mumbles to self	0	10	—
Hallucinates persons	5	5	—
Extreme emotional tone	46	62	—
Suicidal thoughts	21	5	.05
People talk about her	8	26	.05
Fears future	23	36	—
Worries about bodily organs	23	23	—

Second; when significant differences in the 2 sets of ratings were found, the psychiatrist with one exception stipulated less impairment than the significant others. The one exception occurred with regard to self-des-

tructive impulses on the part of the patients. Third, no single area of behavior or symptoms served as the focus of differences between skilled observer and significant others as did somatic complaints in the case of psychiatrist A. Fourth, the correlation between the ratings of psychiatrist B and the significant others was lower, $+ .50$, than the correlation for the other rater and his significant other comparisons. This lower correlation again attests to the greater randomness of differences throughout the ratings. In sum, then, psychiatrist A over-rated impairment in one area and psychiatrist B under-rated it in most areas when the significant others are used as the reference group.

DISCUSSION

In interpreting these results two general conclusions seem important. The first concerns the importance of relatives of patients as raters of the illness and functioning of their significant others. The second reveals that when psychiatric orientation differences between qualified and experienced psychiatrists are minimized, they tend to agree on the general level of disability of their cases and on the diagnoses which they make. Differences, however, continue to occur on the specifics of functioning and the importance and weight of these for the clinical picture of the patient. It is unlikely, as a consequence, that any instrument which attempts to reduce clinical judgment to a series of symptoms or behaviors will be very reliable unless practitioners are first schooled in its usage. Under such conditions variable biases will be replaced by systematic bias leaving us still very short of the desired goal of valid judgments and measures of psychiatric impairment and illness.

Three points should be stressed in interpreting the ratings made of patients by their relatives. 1. Significant other judgments seem to be most reliable when they concern the actual day-to-day functioning of the patients. Relatives seem competent to judge overt and meaningful deviations in functioning. Continuing contact with the patient gives the relative some perspective over time as well. However, relatives and for that matter trained and experienced practitioners

tend to run into difficulty and confusion in rating or judging such subjective, ill-defined and abstract concepts as hostility, guilt, insecurity and the like. The dilemma then involves either eliminating such difficult to qualify but important concepts from rating scales, or retaining them and introducing inevitable perceptual and conceptual biases.

2. Elsewhere we have shown that relatives of former mental hospital patients, and relatives of never hospitalized women who served as controls for the patients clearly were able to distinguish the functioning of the 2 groups. On 20 of 32 symptoms, the controls were rated by their relatives as superior functioners. Thus, using overt behavior or symptoms it is possible to validate the ratings of relatives. This surely has important implications for epidemiologic studies of mental disorder in the general population or in various sub-cultural groups.

3. In the division of labor in the mental health area, it is frequently the lot of the social worker to obtain case histories from relatives. The physician or therapist is often, therefore, denied the salutary effort of tempering or modifying or affirming his own judgments by getting these materials either already interpreted for him or possibly not getting them at all except for some social background data. If, as we have tried to indicate, the relatives and significant others are capable of making critical judgments of patient functioning, then these ought to become available, undiluted and uninterpreted by others, to the clinician. These observations seem to point up the necessity for thorough training of psychiatric residents in the securing of reliable anamneses from the relatives by patients. This appears to be badly neglected in present day psychiatric training.

As suggested elsewhere, the two psychiatrists in this study were selected because they were only minimally discrepant in their orientation. Despite this, differences in their evaluations did occur. Neither their differences in age nor experience, both of which were substantial, could account for the fact that one tended to see greater symptom impairment in his patients while the other tended systematically to underrate such disabilities. Perhaps the difference can be

accounted for by the general pessimism of the more experienced clinician as to case outcome and the apparent optimism of the younger clinician in this respect. Whatever the explanation, it remains a fact that the perceptions of relatives coincided to a greater extent than the evaluations of our skilled practitioners. Finally, the extent to which differences between psychiatrists A and B could have been removed had they interviewed relatives as well as patients is a moot point which remains to be tested empirically.

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RELAXANT ANAESTHESIA FOR ELECTROPLEXY¹

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Modified electroplexy was used for the first time in Australia on December 1, 1945 (27). Since then relaxant anaesthetics have been used in this series for 16,275 treatments in 2,100 cases. All these anaesthetics were given by trained anaesthetists, 13,961 by myself and 2,314 by associates.³ The series comprised 639 males and 1,461 females; age-range 13 to 89, average 50 years. Practically all these patients were of private or intermediate status.

DEVELOPMENT

Case 1.—Stout female, 56; involuntional melancholia for 18 months. Early in illness fractured neck of L. femur; pin-fixation performed. Hence electro-convulsive therapy withheld, but finally decision made to try it with curare (7, 8).

In 5 weeks 11 treatments given; no aggravation of injury. Each fit well modified by Intocostrin equivalent to 20-25 mgm. of d-tubocurarine. No preliminary anaesthetic used, and despite pause of 3-5 minutes between injection and stimulus, little anxiety seen until the last few treatments. Excellent mental recovery ensued.

At this time curare, although available in purified form (Intocostrin), was still regarded with suspicion, and had been employed by us in surgery for only a few months (9). Nevertheless, it was felt that in the new application efficient pulmonary ventilation with oxygen would provide the essential safeguard. This view has been amply confirmed by subsequent experience.

Unexpectedly, in this case and several others given Tubarine, the recovery of breathing was little delayed, perhaps because of excess acetylcholine produced at

the neuro-muscular junctions by the intense motor discharge. This was fortunate because the value of neostigmine was then not sufficiently appreciated by us.

Decamethonium (Eulissin; Syncurine) and gallamine (Flaxedil) were next given a trial. Full dosages, 5 and 80 mgm. respectively, were found necessary, and the persistence of apnoea for anything up to 10 minutes or more afterwards not only demanded efficient and sustained artificial respiration but also made the procedures unduly time-consuming. However, psychiatric misgivings about the safety of these methods so restricted their use that in 6½ years only 11 cases (65 treatments) had been dealt with.

The introduction of succinylcholine (suxamethonium) chloride (Scoline, Anectine) now revolutionized the situation. Following the first British report (31) it soon came to Australia (1) and its value in ECT was rapidly confirmed there (29, 32). My own recourse to the new drug so increased that, during the years 1957 and 1958, 816 cases (6,184 treatments) were handled. Numbers have declined somewhat since then, probably because of improved tranquillising or anti-depressive drugs.

Periodically suxethonium bromide (Brevetil E) was tried in this series (35 cases), but its one advantage of slightly briefer action was offset in terms of cost, convenience, constancy, relative potency and stability in solution. Far more than with suxamethonium chloride its solutions require cold storage to preserve their potency, which otherwise deteriorates rapidly. Thus increased volumetric dosages will more frequently become necessary with suxethonium solutions that are kept for even short periods, while consequent variations in residual potency create doubts about the likely response, which might be unexpectedly violent.

Suxamethonium bromide (Brevetil M) was also found to have similar disadvantages. As with suxethonium its relatively low content (64%) of active cation compares

¹ Read at the 2nd World Congress of Anaesthesiologists, Sept. 8, 1960, Toronto, Canada.

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³ It is desired to thank Dr. Cedric Swanton, Dr. Stephen Benedek, Dr. Roger Kiely, and Professor W. S. Dawson for giving me access to most of the patients dealt with in this paper. The invaluable help of the nursing staffs of the hospitals concerned is also acknowledged, as is that of my stenographer, Mrs. M. Mitchell.

unfavorably with that of 80% for the chloride(11). This latter figure facilitates the calculation of accurate dosages when necessary. Hence in this series the preference for suxamethonium chloride has been maintained.

SCOPE

Increasing familiarity showed that, in competent hands, modified electroplexy could be made safe for virtually all patients needing it. Training and experience in modern anaesthetic technique was an invaluable aid in this regard. The essential requisite for safety was skilful and efficient pulmonary ventilation with oxygen during every treatment.

The following brief reports are illuminating :

Case 20.—Emaciated female, 50 ; severe melancholia. Extreme osteoporosis absolutely precluded unmodified ECT. Recovery after 12 treatments modified variously with Brevedil M, Scoline, and Brevedil E.

Case 219.—Big-framed florid woman, 65 ; post-reserpine depression. Gross hypertension, 300/200. Retinal changes present. Good result from 10 treatments, oxygen inflation with each. Further treatments 8 months later with good effect.

Case 1133.—Frail old woman, 70 ; senile depression. Coronary sclerosis, hypertension and congestive cardiac failure ; on digitalis and Diamox. Mental improvement with 17 treatments, modified with Scoline, over 5 months. Alarming bradycardia, extrasystoles and hypotension at first treatment, corrected by O_2 inflation and IV atropine. Similarly protected in subsequent treatments, plus dilution and slow injection of all solutions.

Case 1321.—Cyanotic female, 60 ; gross hysterical "asthma," 3 years. On enormous doses of adrenaline. In hospital 12 times with "status asthmaticus." Appearance really shocking. Recovery after 7 treatments modified with Scoline. Relapse 4 months later, 7 further modified treatments only temporarily effective. Now in "institution ; probably denied further treatment because of terrifying "symptoms."

Case 1357.—Debilitated male, 68 ; involutional melancholia ; myocardial degeneration, with 2:1 heart-block ; cardiac failure imminent ; on digitalis. Excellent mental recovery after 11 treatments modified with Scoline ; improvement maintained.

Without prompt and sustained IPPR⁴ with oxygen in these patients, their prospects of survival would have been very uncertain. A similar consideration applies to several cases of prolonged apnoea, quoted later. Treatment was denied in only two cases, one of advanced congestive cardiac failure, and another, restored with oxygen and saline venoclysis from collapse following thiopentone, found to have a perforated duodenal ulcer.

TECHNIQUE

From an early stage in this series a "sleep-dose" of thiopentone has been given to all patients treated. The 2% solution was always used, especially to minimize irritation from wrong placement (perivenous or intra-arterial injection). A good sign of correct location is that the patient becomes aware of a sulphurous smell or taste within 3 or 4 seconds of starting the injection, perhaps because of some breakdown of the barbiturate in the lungs. Salivary excretion could not occur in this short time.⁵

A pause of about 5 seconds was then observed before giving the relaxant, so that painful muscular twitchings and feelings of suffocation would not be appreciated by the patient. All relaxant solutions, too, were well diluted with sterile water for the following reasons :

a. Any minor leakage or loss of a concentrated solution will reduce significantly the quantity of active substance given, whereas with free dilution small losses become immaterial.

b. Increasing the volume of the injection will lessen the possibility of its sequestration in dilated or obstructed veins.

c. The larger volume necessitates a slower rate of injection, thus ensuring better dilution in the blood-stream and reducing the possibility of muscarinic (vagal) effects on the heart(23).

On completing the injections, rhythmic inflation of the lungs with oxygen was practised, to prevent hypoxia during the 50-70 seconds required for maximal effectiveness of the relaxant. Few reports have stressed the importance of this pause, which influ-

⁴ Intermittent positive pressure respiration.

⁵ "I feel it in my throat." "It's going up through my nose." "What a horrible taste." "It stinks."

ences dosage significantly (*vide infra*). The stimulus was then applied, and when muscular spasms had ceased oxygen-inflation was resumed and continued until spontaneous breathing recommenced.

Throughout the whole procedure firm chin-support was consistently applied, not only to ensure a clear airway and to safeguard the tongue, lips, and teeth, but also to keep the epiglottis away from the posterior pharyngeal wall and so to prevent reflex spasm or vomiting. This is most important, in case food or drink has been surreptitiously taken—indeed, it is a useful safeguard when the stomach is known to contain food. For similar reasons artificial airways and mouth-gags were generally avoided, and sound (acrylic) artificial dentures left *in situ*. When breathing resumed, all patients were placed in a true lateral position, so that a clear airway and the escape of secretions would be ensured during recovery. To leave patients lying supine at this stage, partly obstructed and gargling their secretions, is bad practice.

DOSAGES

Preliminary atropine was usually omitted, so as to minimize discomfort. When, however, hypersecretion or marked bradycardia had been found to occur, 0.65 mgm. (gr. 1/100) would be given hypodermically about one hour beforehand. If time were short, or in emergency, atropine was given intravenously—a rare necessity.

The usual dose of thiopentone varied between 150 and 250 mgm., depending on the physical and mental condition of the patients. Occasionally more would be used. Obviously, heavy medication beforehand (barbiturates; chlorpromazine, *etc.*) would suggest reduced dosages.

Similarly, no minute calculation of dosage was necessary as regards the relaxants. Experience showed that, with succinylcholine chloride, the range was from 15 to 50 mgm., also depending on the nutrition and physique of the patients. Usually, the first treatment represented the trial of a roughly estimated dose, subsequent requirements being regulated according to the response then obtained. Formerly larger dosages (50-100 mgm.) were considered necessary, not only from anxiety to procure adequate

relaxation but also because insufficient time (20-30 sec.) was being allowed between the injection and stimulus. Later it was realized that by giving the relaxant enough time to act, its dosage could be very substantially reduced without loss of efficiency. A more speedy recovery of breathing also resulted.

RESPONSE

In this series the object has been to obtain good modification of the convulsion, especially of the initial tonic spasm, without suppressing the indications of a major fit. Profound modification was sought only when serious traumatic or other disabilities already existed, but it sometimes occurred when not really desired, usually at initial treatments. The reverse situation of unexpectedly strong convulsions usually meant deterioration or wrong placement of the relaxant solutions, or use of the wrong drug. This occurred twice, with nikethamide (Coramine) and methyl-amphetamine (Methedrine) respectively in Cases 95 and 181, without ill effects.

There are various useful but not consistent signs that a major fit is taking place. Following the brief stimulus the tonic phase is sustained, with spastic dorsi- or plantar-flexion, and often internal rotation of the feet. The great toes are either flexed or extended, sometimes with reversal of this movement when the clonic phase begins. Similarly, acute flexion of the wrists and fingers often occurs, but with the thumbs adducted and the index finger pointing ("J'accuse"). The lips are also strongly pursed ("duck-face") and the brow creased in bewildered perplexity. Occasionally the pupils are dilated or the eyes widely opened. Clonic spasms or tremors now follow, and are confirmatory of a major seizure, even if slight and confined to the eyelids and face. Undue delay between injection and stimulus (over 90 seconds) will result in a prolonged clonic phase, because the effect of the relaxant is now rapidly waning. If, however, no sign whatever appears, the stimulus may be repeated when breathing (and hence neuro-muscular transmission) returns, and a good response obtained. Meanwhile, of course, rhythmic inflation with oxygen is continued.

COMPLICATIONS

There was no death immediately related to the therapy in this series, but 2 patients died during the course of their treatments. One had a cerebral haemorrhage about 12 hours after her 4th treatment, while the other died of a coronary occlusion 4 days after her 5th treatment. Both of these events were thought to be purely coincidental. Otherwise, the only significant complication was prolonged apnoea, which developed in 9 cases. Although more likely in the malnourished and debilitated, it nevertheless occurred in some apparently healthy subjects. Whatever the cause, whether deficiency of pseudo-cholinesterase in the blood-serum (16) or of potassium ions at the neuromuscular junctions (13, 24), the essential treatment is to maintain efficient pulmonary ventilation with oxygen for as long as necessary. In addition, if apnoea persists for more than a few minutes, carbon-dioxide absorption must be practised as well, to prevent the toxic effects of hypercapnia. These are far more dangerous, especially to the heart (22, 18) than any prolongation of the apnoea by hyperventilation which indeed, by inducing alkalosis, would favour elimination of the relaxant (17).

This observance of anaesthetic principles forbade the use of stimulants and analeptics, that are so often given priority by various writers, especially psychiatrists. There is no need to abandon modified therapy because of such apnoeic incidents; in subsequent treatments the dosages of the relaxant can be drastically reduced, as little as 5 mgm. of suxamethonium often being adequate.

A variety of minor complications also occurred in this series. Thiopentone was given intra-arterially in two cases, but being well diluted (2%) produced no ill effect. Venous thrombosis was similarly limited, an important consideration when scanty veins must be conserved for multiple injections. Post-anaesthetic restlessness was rare, because of the use of oxygen. Undue bradycardia, salivation and laryngospasm occurred in a few cases; in these atropine was useful. A dusky colour in two cases, unrelieved by oxygen, was due to sulphaemoglobinaemia from excessive use of phenacetin compounds. Another case with deficient response to, oxygen, required

bronchoscopic evacuation of massive pus accumulations from the lungs. The hazard of bronchial inundation with pus should always be anticipated in patients with bronchiectasis or chronic sinus infections, and suitable preliminary therapy—postural drainage and bronchoscopy—effected. Temporary signs of a partial brachial plexus lesion were seen in one case, probably due to cervical spondylosis. Finally, vulcanite dentures were broken in two cases; artificial teeth of this material are now removed. Complaints of after-pains were rare, since 4 hours bed-rest was ensured after all treatments.

COMMENT

The relevant literature exhibits much diversity of opinion regarding the proper conduct of modified electroplexy (2). Much false emphasis is also evident. For example, haemorrhagic lesions found at autopsy have been attributed rather to the therapy than to the most likely cause, anoxia (25). Deaths occurring after giving the relaxants but before the stimulus was applied have been attributed to the former, and not to the ineptitude of the users (20). Some writers consider that restriction of both thiopentone and relaxant to barely effective dosage will increase the safety margin (21, 28). This idea has been extended to justify the entire omission of thiopentone (15), a "sub-shock" being used instead to produce unconsciousness (19, 10). Criticism of this most unpleasant treatment has been made (26), for in competent hands there is no need to restrict either the anaesthetic or the relaxant components of the procedure.

The ill-effects of oxygen deficiency are not sufficiently emphasized in articles on this subject. It is often mentioned only vaguely or as a secondary consideration. Some reports do not refer to it at all, but instead exhibit a pathetic reliance on such drugs as lobeline, nikethamide, aminophyllin, potassium chloride, nor-adrenaline and even cortisone in emergency situations. Even anaesthetists have been guilty of stating that oxygen is "not often required" or "given only when necessary." It is always necessary, for serious impairment or suppression of the vital function of breathing invariably accompanies modified electroplexy. To

be effective oxygen must reach the pulmonary alveoli, and this can be ensured only by inflation of the lungs from a Waters' "bag-and-mask" or similar outfit. Failing this, expired-air inflation (mouth-to-mouth, etc.) is far superior to manual compression of the thorax. The futility of even massive insufflation of oxygen into the nose or pharynx of a paralysed subject should be obvious to everyone.

Further examples of false emphasis are readily found. In an otherwise excellent article(3) a death is ascribed to "severe functional disturbance of delicately balanced physiological mechanisms"—in short, asphyxia. Again, in a fine study of prolonged apnoea after the use of Brevedil E(4) it is stated that this drug can produce "not only apnoea but a profound degree of collapse"—hyperbole indeed. Further, the use of an oxygen and 5% carbon-dioxide mixture is then recommended. This advice, of course, ignores the fact that central stimulation cannot improve breathing while neuro-muscular transmission is interrupted. The fallacy of using this mixture to prevent hypocapnia from over-vigorous lung-inflation(30, 12, 15) also should be obvious.

Hypoxia during surgical anaesthesia is known to cause mental deterioration, especially in elderly subjects(5, 6). It is probable that repeated hypoxic episodes during serial electro-convulsive treatments could be similarly deleterious, so reducing the prospects of good mental recovery. Hence efficient ventilation of the lungs with oxygen should invariably accompany modified electroplexy. Knowledge and skill in this regard are largely the prerogatives of trained anaesthetists. Others wishing to utilize effectively this vital remedy should either know something of its proper application or else call in expert help.

SUMMARY

1. A report covering 16,275 modified electro-convulsive treatments on 2,100 patients is submitted.

2. The scope and development of the procedure in the course of nearly 15 years is indicated.

3. The technique and dosages employed with the preferred drugs, thiopentone and suxamethonium chloride, are outlined.

4. There was no death immediately related to the therapy, but 2 patients died coincidentally during the course of their treatments.

5. Prolonged but non-fatal apnoea occurred in 9 cases, being readily controlled by proper oxygen therapy. Other complications were rare and of minor character.

6. The imperative need for such oxygen therapy in all patients subjected to modified electroplexy is emphasized.

7. Comment is made on various examples of false emphasis, especially regarding emergency developments, that occur in the relevant literature.

8. The possibility that repeated hypoxic episodes in elderly or debilitated patients might impair mental recovery is stressed.

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MONISM AND DUALISM IN THE STUDY OF BEHAVIOR : IS THERE A CONFLICT BETWEEN THE PSYCHODYNAMIC AND THE ORGANIC POINTS OF VIEW ?

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Bailey(1), who has devoted much time and thought to the mind-brain problem, begins his recent penetrating analysis of the subject by defining the sharp contrast, as he sees it, between the biological and psychodynamic points of view. He says that psychoanalysts and others who are psychodynamically oriented

believe psychic events to have power to create behavior or, better, that psychic events have access to, or are controlled by, a special source of power, variously spoken of as the Soul or the Ego. This source of power is . . . felt to be separate from and, in many ways, opposed to the tendencies of the biological mechanism which we call the body. They are, in other words, "obstinate dualists."

Opposed to this is the biological point of view, which is "monistic."

Bailey has no sympathy for the "obstinate dualists." He says (page 371) :

Superego, Ego and Id are only new words for the ancient dualistic manner of thinking embodied also in words, such as God, Man or Devil, which goes back at least to Zoroaster. Psychodynamicists . . . think like theologians. Having banished the Soul, they are obliged to reinstate it under the guise of the Ego, a term which they are forced to use more and more, as the theologians use the Soul.

Bailey is a learned and scholarly man whose opinions deserve close attention, but I submit that he is mistaken. I shall try to show that there is no conflict between the organic or biological view of behavior and the psychodynamic view. On the contrary, the two views are complementary. They focus attention on different aspects of behavior. There is no more conflict between them than there is between the physician who studies the clinical aspects of pneu-

monia and the scientist who studies its bacteriology.

In the study of the mind-brain problem it seems to me essential to adopt Hughlings Jackson's "doctrine of concomitance"(9). The brain is a material thing, consisting of neurones which obey the laws of physics and chemistry. How can activity of physical structures be transmuted into such immaterial things as ideas and images ? Jackson held that it is futile to try to answer this question. We can only say that a mental state is "concomitant" with activity of nerve structures. Thus, speaking of the "relation of consciousness to nervous (physical) states," he said (II, 72) :²

The doctrine I hold is : first, that states of consciousness (or, synonymously, states of mind) are utterly different from nervous states ; second, that the two things occur together—that for every mental state there is a correlative nervous state ; third, that, although the two things occur in parallelism, there is no interference of one with the other. This may be called the doctrine of Concomitance(3).

Again he said (I, 52) :

We cannot understand how any conceivable arrangement of any sort of matter can give us mental states of any kind . . . I do not trouble myself about the mode of connection between mind and matter. It is enough to assume a parallelism. That along with excitations or discharges of nervous arrangements in the cerebrum, mental states occur, I, of course, admit ; but how this is I do not inquire ; indeed, so far as clinical medicine is concerned, I do not care.

To put the matter in other words, mental states are but the epiphenomena of physical states in the brain.

I submit that if we accept Jackson's view, there is no conflict between the biologist and the psychodynamicist. As Bailey says,

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² Bracketed figures refer to volume and page of "The Selected Writings of John Hughlings Jackson" (3).

the psychodynamicist believes that "psychic events (can influence) behavior," but this belief is acceptable if we understand it correctly. The influence is exerted not by the psychic events, *but by the physical states concomitant therewith.*

Material events occur only in response to material causes. They cannot be attributed to immaterial causes. But they can correctly be attributed to the material *concomitants* of immaterial (or psychic) events.

In this connection I refer to a striking passage in Tinbergen's remarkable book *The Study of Instinct* (15). Speaking of the causes of behavior, Tinbergen objects to the custom of attributing causation to "subjective" factors. Thus he says (page 4): "The conclusion that an animal hunts because it is hungry will satisfy many people at first glance." He objects to this easy explanation.

The ethologist does not want to deny the possible existence of subjective phenomena in animals (but) he claims it is futile to present them as causes, since they cannot be observed by scientific methods. Hunger, like anger, fear, and so forth, is a phenomenon that can be known only by introspection.

Tinbergen drew the right conclusion but for the wrong reason. The objection to attributing behavior to hunger is not that hunger, being a subjective state, cannot be studied objectively. Even if we had a method of studying and measuring hunger, we still could not attribute behavior to it, since behavior consists of a series of physical reactions while hunger is a mental state. Physical reactions must be explained by physical causes. Certain chemical depletions of the hungry animal arouse responses in his nervous system which manifest themselves in movements designed to correct the depletions. The function of the nervous system is self-preservation. The healthy and properly "educated" predator responds to periodic internal chemical states by finding and devouring its prey. The chemical state is the cause of the behavior. The feeling of hunger is merely an epiphenomenon.

There comes to mind an example that was one of Jackson's favorites. Jackson had an uncanny ability to spot the fallacies that may lurk behind a façade of logic. He often

referred to the motionlessness of a patient after an epileptic fit, saying that many physicians, if asked why he is motionless, would think it reasonable to answer, "Because he is unconscious." Jackson knew that you cannot attribute a physical state (motionlessness) to a mental state (unconsciousness). The correct answer, he argued, is that the highest cerebral centers (the "organ of mind") are of sensorimotor constitution (7). The unconsciousness is concomitant with paralysis of these centers, and the motionlessness with paralysis of their motor component (11). Here is one of Jackson's many statements on this matter (I, 321):

After a very severe fit of epilepsy proper, the patient does not move his limbs . . . He seems a mere breathing, circulatory, *etc.*, mechanism, lying otherwise inert on the floor. As he is then comatose, it would generally be said that he does not move *because he is unconscious*. A moment's consideration, however, will show that this is an explanation which verbally explains everything, and yet in reality explains nothing. It may pair off with such a pseudo-explanation as that a patient does not move a limb because there is loss of volition . . . It belongs to a whole family of psychologicomaterialistic confusions; it is akin to that which has it that ideas or sensations (psychical states) produce movements (physical states); to that also which declares that the mind affects the body. Nothing is said against the popular or clinical use of these expressions. No one objects in a clinical conference to the expression that . . . the mind affects the body, when it is understood that what is meant is that centres, *during activity of which mental states arise*, can affect other centres, and thus the body. But much is to be said against the use, or rather abuse, of such expressions in what purport to be scientific explanations . . . I submit that the post-epileptic comatose patient does not move, for the very simple reason that there is some negative *physical condition* of his nervous centres . . . The fact is, he cannot be unconscious without having some negative physical condition of his nervous system answering to that negative psychical condition, and it is the central negative physical condition alone (that explains) his other physical condition of immobility.

(Italics in original.)

In his third Croonian Lecture Jackson said (II, 72):

Those who accept the doctrine of concomitance do not believe that volitions, ideas and emotions produce movements or any other physical states. They would not say that an hysterical woman did not do this or that because she lacked will; that an aphasic did not speak because he had lost the memory of words; or that a comatose patient did not move because he had lost consciousness. On the contrary, they would give, or try to find, materialistic explanations of physical inabilities.

The foregoing argument would appear to support Bailey in his disagreement with the psychogeneticists. But this is not the case. Psychic events *can* influence behavior, but we must understand how this influence is exerted. We may take up the matter of learning. Experience and learning modify the brain. An Englishman and a German may each have a normal brain, yet their brains differ in their functional organization, for the article of furniture that you sit on causes one to think of the word "chair" while the other thinks of "Stuhl." These two words presuppose different patterns of innervation of muscles of articulation. Learning has caused these men to respond differently, with different patterns of tongue and lip movement, to the same stimulus.

The psychodynamicist is more particularly concerned with the effects of *emotional* experience. He believes that emotional experience in childhood can leave its stamp on later patterns of behavior. This belief cannot be disputed. If a child is frightened by a dog, his behavior may show it for years afterward. The psychodynamicist cannot be criticized for such a belief. He can be criticized only if he denies that the influence of psychic events is mediated by cerebral mechanisms.

The biological and the psychodynamic points of view are both necessary if we are to understand behavior. We must study psychodynamics to understand why we are what we are, why we behave and think as we do. We must study brain function to understand the cerebral mechanisms that mediate psychodynamic influences.

The man who has done the clearest thinking on the mind-brain problem was Hughlings Jackson. Being interested in the manifestations of brain disease, he paid close attention to the mental disturbances seen in

epilepsy and other organic and toxic states. He made some remarkable observations in toxic delirium. Thus he showed that the delirious patient tends to mistake the unfamiliar for the familiar (as when he mistakes the nurse for his wife) and this error of orientation is a manifestation of "reduction to a more automatic condition" (6). He had the useful habit of looking for similarities between complex phenomena, such as mental symptoms, and simpler disturbances from disease of lower levels, it being a favorite thesis of his that higher and lower levels of the nervous system, though they differ enormously in complexity, are fundamentally alike and obey the same physiological laws.

Jackson, whom Otto Sittig once called the profoundest thinker in the history of neurology, has charted a path that we might follow with profit. To give but one example, the delirious patient, being disoriented, may be unable to answer correctly when you ask him to name your occupation, yet in spontaneous conversation he may address you as "Doctor," as when he says "Good morning, Doctor" or "Thank you, Doctor." There have been instances in which the patient addressed me as "Doctor" *in the very sentence* in which he misnamed my occupation. Thus a patient in a bromide delirium, when asked to name my occupation, replied, "I wouldn't know, Doctor—is it painting and decorating?"

But this phenomenon ceases to be puzzling when we consider that it is exactly parallel to one seen in aphasia. The aphasic, as Jackson often pointed out, can sometimes say a word spontaneously which he cannot say on command. Thus if he cannot say "No" when you ask him to, he may say it in reply to a question calling for a negative. The parallel even extends to those instances in which the delirious patient addresses you as "Doctor" in the very sentence in which he misnames your occupation. Thus an aphasic, after a vain effort to say "Pencil" on command, may give up in despair and cry out, "No, I can't say pencil."

Here is a precise parallel between a "mental" symptom, disorientation, and a disturbance seen in organic disease, aphasia. The significance of the parallel has been discussed elsewhere (5; 8). The two phenom-

ena are manifestations of the same physiological principle, "reduction to a more automatic condition." We see here the profit to be gained from viewing a mental phenomenon from the biological viewpoint, as a manifestation of a disturbance in cerebral physiology.

MONISM AND DUALISM

Bailey regards the psychodynamicists as dualists, and once again I take issue with him. This is not an easy matter to discuss, for there are many definitions of monism and dualism, and as an amateur in the province of philosophy I "stick my neck out" with apologies.

In the study of neurology the monist, it seems to me, is he who believes that all behavior (including mentation, which is internal or subjective behavior) can and must be accounted for on the basis of cerebral activity, psychic activity being but the concomitant, or epiphenomenon, of cerebral activity. The dualist, by contrast, is he who believes that brain activity cannot explain all of behavior and who assumes a "soul" that is higher than the merely material brain.

To discuss this matter in more specific terms, I quote a comment by Schiller (14) in reference to Hughlings Jackson. Schiller said, "His was the Cartesian dualism of mind and brain, the brain being merely the organ of mind." But I submit that Jackson's formulation makes him a monist, not a dualist. A strict materialist, he regarded mental activity as a manifestation of activity of the highest cerebral centers (the "organ of mind"), even though, in keeping with the doctrine of concomitance, he maintained that the transmutation of physical into mental will ever remain a mystery.

Walshe too seems to have made the same error. In his review of Lord Cohen's book on Sherrington (16), Walshe, referring to Sherrington's comment on the unsolved mystery of the mind-brain relationship, has this to say:

But surely, this negative attitude, which was that of Hughlings Jackson also, is not "a philosophy." It is simply an honest admission of a problem for which, as they thought, natural science did not provide the solution. Both were dualists in a negative sense.

As to Sherrington, Walshe's judgment appears to be another example of a correct conclusion based on the wrong reason. Sherrington was indeed a dualist, but not because he accepted the insolubility of the mind-brain relationship. His conversation with Brain (2) suggests that the dualistic position appealed to him. As to Jackson, Walshe's designation of him as a dualist is in my opinion a mistake, for reasons already given.

A good example of the position of the dualist is found in the writings of Thomas Laycock (the man whom Jackson credited with the thesis that the highest cerebral centers obey the laws of reflex action). Laycock (4) quoted with approval Morell who said that the soul exists "prior to consciousness," since it exists "from the formation of the first cell-germ" (vol. I, p. 129). On page 283, after saying that man stands at the head of an ascending scale of animal life, Laycock argued that the scale is

not truncated at man, and that beyond him there cannot be a dark, unpeopled void . . . (There is) an infinite gradation of Being, above and superior to man. That we cannot see such Beings, nor demonstrate their existence, is a necessary result of our position in the scale, and no proof whatever of their non-existence. The worm knows nothing of man, his works, or his actions; nothing of the sun or the stars . . . ; and so, with reference to the spiritual world—the world around and above us—our organs may be as imperfect as those of the worm with reference to the world around and above it.

Bailey prefers monism to dualism. Penfield (13) quotes Lord Cohen that "the ultimate goal of science is a universal monism." But Penfield himself seems to waver. Speaking of the "master mechanism" which he postulates in the brain stem, Penfield says:

What is the real relationship of this mechanism to the mind? Perhaps we will always be forced to conjure up a spiritual element of different essence situated between the sensory complex and the motor machine, a spiritual element that is capable of controlling the mechanism.

But though we may sympathize with Bailey in his preference for monism, we need not accept his criticism of the psycho-

dynamicist as an "obstinate dualist." The psychodynamicist is a monist so long as he believes that mental and emotional experience affects cerebral processes, and that only thus can we account for its influence on behavior.

There is no contradiction between the psychodynamic and the organic points of view. They both help us to understand behavior. Just as the world needs both the artist and the scientist, and medicine needs both the clinician and the physiologist, so does the study of behavior require the collaboration of the psychodynamicist (psychiatrist, psychoanalyst) and the neurologist.

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DIFFERENTIATING VARIABLES : OBSSIVE-COMPULSIVE NEUROSIS AND ANOREXIA NERVOSA

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There has been considerable disagreement among psychiatrists in the diagnosis of anorexia nervosa. In 1874, Sir William Gull (3) described the condition which was characterized by "repugnance of food, extreme emaciation, amenorrhoea and personality changes." A review of the literature indicates that while most authors accept the aforementioned as definitive symptoms, there is much disagreement as to the nature of the condition, the type of personality and emotional conflict with which it may be associated, and method of treatment. It would appear that the clinician's interpretation and evaluation of these latter items also influences his diagnosis of anorexia nervosa.

Anorexia, loss of weight and amenorrhoea may be observed in many psychiatric illnesses, and it is not surprising that the condition should be considered as a depression or schizophrenia. Eissler (2) suggested that there were 3 degrees of anorexia nervosa : it could be symptomatic of hysteria, schizophrenia or melancholia, it was a disease entity in itself, and a third group fell between these divisions. However, most authors are concerned with the close similarity between anorexia nervosa and obsessive-compulsive neurosis. DuBois (1) concluded that "anorexia nervosa is fundamentally a compulsive neurosis with cachexia as a leading symptom." Rahman, *et al.* (5) in a study of 12 cases of anorexia nervosa believed it to be a neurosis with obsessive-compulsive features. On the other hand, Kay and Leigh (4) in a very complete study of 38 cases of anorexia, while impressed with the frequency of obsessional traits in the personalities of these patients, concluded that there was no neurosis specific to anorexia nervosa. Neither were they convinced that anorexia nervosa is a psychiatric entity.

Recently we observed 2 young female patients who were diagnosed by competent psychiatrists as suffering from obsessive-

compulsive neuroses. It was noted at the time that both patients presented the definitive symptoms of anorexia nervosa as described by Sir William Gull, in addition to obsessive-compulsive features. Further inquiry disclosed many other similarities in their symptomatology, personality, onset and course of illness, life history and family history. It was soon recognized that most of these items which were common to both patients' profiles were frequently found in the profiles of patients suffering from either anorexia nervosa or obsessive-compulsive neurosis. Certain features present in both patients, however, could not be considered characteristic of either anorexia nervosa or obsessive-compulsive neurosis. Just prior to the onset of avoidance of food and weight loss, a variety of psychiatric symptoms appeared in both patients, which disappeared when the final clinical picture became established. These transient symptoms we have labelled "premonitory trial symptoms." Peculiar to both patients were periods during which there was a greatly increased intake of food interspersed with greatly diminished intake. This "cycling" in food intake tended to persist through the course of the illness. A poor phantasy life and a definite history of allergic and psychosomatic disturbances in earlier life were other common features not typically though occasionally seen in cases of either anorexia or obsessive-compulsive neuroses. Since these patients have been diagnosed as obsessive-compulsive neurotics, we asked ourselves the following questions :

1. Can a clinical distinction be made between anorexia nervosa and obsessive-compulsive neurosis? If such a distinction can be made,

2. What features of these conditions serve to differentiate them?

3. Is it possible that both conditions can coexist in the same patient as suspected in the 2 special cases under study?

In an effort to find an answer to these questions, we have used the following method of comparison.

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METHODOLOGY

Variables in the family history, life history, personality and symptomatology common to both of these patients were listed. Further variables considered to be characteristic or frequently found in the profiles of anorexia nervosa or compulsive neurotics were added to make a total of 22 variables. The hospital records of 8 anorexia nervosa patients and 10 obsessive-compulsive neurotics, who had been diagnosed as such by independent psychiatrists, were then obtained. The patients were matched for sex and as close as possible for age. The list of variables in Table 1 was compared on each case history.

In order to test the significant difference in the occurrence of these variables in anorexia nervosa and obsessive-compulsive neurosis, the Fisher test(6) of exact probability was applied. This is a nonparametric technique for analyzing discrete data when the 2 independent samples are of small size.

RESULTS

To a significant degree certain variables occurred more frequently in anorexia nervosa than obsessive-compulsive neurosis. Those patients diagnosed as suffering from

anorexia nervosa were distinguished by the presence of a history of neurotic traits in childhood, a conflict associated with school, excessive activity during the period of illness, amenorrhoea, anorexia and weight loss. In the sample under study, the anorexia nervosa patients demonstrated on the average 5 of the 6 aforementioned significant variables. In no instance were there fewer than 4 of these variables present. On the other hand, only once did any of these variables significant for anorexia nervosa appear in the profiles of an obsessive-compulsive neurotic.

The obsessive-compulsive patients could be distinguished from the anorexia patients by the presence of compulsive acts, obsessive thinking, a poor phantasy life, concern about symptoms, and an interruption of their accustomed activities. The obsessive patients demonstrated on the average 3.7 of the 5 variables significant for that condition. In no instance were there fewer than 3 present. In comparison the anorexia patients averaged only 1.4 of the variables significant in obsessive-compulsive neurosis.

When both sets of significant variables were applied to the case histories of the 2 special cases under consideration, we found that these patients showed a sufficient num-

TABLE 1

	OBSESSIVE- COMPULSIVE n=10	ANOREXIA NERVOSA n=8	SIGNIFI- CANCE
(1) Perfectionistic parents	3	3	n.s.
(2) Punitive or difficult toilet training	3	3	n.s.
(3) Neurotic traits in childhood	1	5	.03
(4) History of psychosomatic disorders	0	3	n.s.
(5) Model or "good" children	4	7	n.s.
(6) Need for school success	1	6	.005
(7) Onset of symptoms in relation to school conflict	0	7	.001
(8) Lack of close friendships	8	6	n.s.
(9) Premonitory trial symptoms	3	5	n.s.
(10) Conflict associated with sex	8	6	n.s.
(11) Amenorrhoea	0	8	.001
(12) Loss of weight	0	8	.001
(13) Anorexia	0	8	.001
(14) Cycling of symptoms	1	3	n.s.
(15) Interruption of normal activity	10	0	.001
(16) Increased activity	1	5	.031
(17) Concern about symptoms	10	1	.002
(18) Obsessive thinking	9	2	.008
(19) Compulsive acts	9	3	.031
(20) Poor phantasy life	2	7	.007
(21) Perfectionistic personality	4	5	n.s.
(22) Catholic religion	4	5	n.s.

ber of each set to warrant a diagnosis of both anorexia nervosa and obsessive-compulsive neurosis.

DISCUSSION

In attempting to make a clinical differentiation between anorexia nervosa and obsessive-compulsive neurosis, we have found significant differences in the occurrence of certain variables which tend to distinguish them as clinical entities. We have also found that these conditions can coexist in a patient. In addition, these 2 conditions have many features which traditionally have been used to differentiate them, but in fact are not statistically reliable in making a differential diagnosis.

In neither group was there found evidence of undue obsessive or meticulous traits in the parents of these patients. While the patients tended to be obedient, "model or good" children with a need for success at school, these characteristics did not distinguish them from each other. Perfectionistic and meticulous traits were as common in the personalities of anorexia nervosa patients as in the personalities of the obsessive-compulsive neurotics. Patients of each group were lacking in ability to make close and lasting friendships with their peers. Psychoanalysts have sought for the roots of obsessive-compulsive neuroses in parental relationships during the anal stage of libidinal development and have formulated the dynamics of this neurosis around the conflicts of this developmental stage. In our sample, a history of early punitive, or difficulty in, toilet training was notably infrequent in both the obsessive and anorexia patients. While a conflict in respect to sex, or an unhealthy attitude towards sex, seemed to be the rule rather than the exception, there appeared to be no specific type of conflict peculiar to either diagnostic category.

CONCLUSIONS

Anorexia nervosa and obsessive-compulsive neurosis have many features in common. It would appear, however, that they are capable of being distinguished from each other on a clinical evaluation of the history, personality and symptomatology of the individual patient. Amenorrhoea, anorexia, loss of weight, excessive activity during the period of illness, a conflict associated with or reflected in school adjustment, and a history of neurotic traits in childhood are characteristic of anorexia nervosa. Compulsive acts, obsessive thinking, a poor phantasy life, concern about symptoms and an interruption of accustomed activities are more liable to be associated with obsessive-compulsive neurosis.

The 2 conditions can exist together in a patient, and in this instance the diagnosis should be so stated.

SUMMARY

The records of patients with the diagnosis of anorexia nervosa and obsessive-compulsive neurosis were examined with respect to certain variables. These were compared with 2 patients who had features of both conditions. The results are described.

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PROCESS, SCHIZOPHRENIC AND THERAPEUTIC : SOME MISCONCEPTIONS RESULTING FROM LANGUAGE AND PHILOSOPHY ¹

EDWARD S. DEAN, M.D.²

In psychiatric discussions the term *process* is frequently misused. It is misused because of preconceptions rooted in our language and because of a tradition of thinking in essences. Thinking in essences results in misunderstanding and poor treatment.

Psychiatrists can improve their theory and practice by identifying and rejecting preconceptions based on essences. What is needed is a phenomenal approach, as for instance in the theory and treatment of schizophrenia.

THE CONCEPT OF ESSENCE

What I mean by thinking in essences is the tendency to assume that everything has an inner and higher reality that determines its external characteristics. The essence of a thing, it is believed, is that which determines its nature.

As applied to people, the term refers to an inner quality that determines character. An essence approach assumes an inner nature that shows itself in traits of character. For example, a person who acts dishonestly will be considered dishonest by nature. His dishonest behavior will be regarded as determined by the essence of dishonesty. Thus the quality assigned to an act is transferred to an assumed inner nature.

The essence concept goes back to Plato, the classic philosopher, with his supra-sensory world of ideas apprehended by reason and intuition. The Platonic ideas are qualities in pure form. The good, the true, and the beautiful are such because they partake of the idea, or form, of goodness, truth, or beauty. Likewise, dishonesty partakes of the quality of dishonesty. This quality is eternal and exists in pure form somewhere in a realm beyond the reach of our senses.

In short, an essence is a metaphysical concept. It has no tangible existence. The medieval philosophers reduced the concept of essence to an element in definition. They held that an essence is that characteristic without which a thing loses its identity.

Modern philosophy has had less use for the term. But the concept persists in our language and thought with its original vitality. It dominates what is called common sense. Inevitably, it has found its way into psychotherapy.

THE INFLUENCE OF LANGUAGE

A further consideration is that the tendency to think in essences is encouraged, if not enforced, by the structure of our language.

Naming : First of all, we give names to concepts, and names tend to promote the assumption that what is named has objective existence. This is like the tendency to believe a thing is true because one sees it in print. Like the printed word, names are loaded with an authority which may be wholly illusory.

John Stuart Mill(1) said :

The tendency has always been strong to believe that whatever receives a name must be an entity or being, having an independent existence of its own : and if no real entity answering to the name could be found, men did not for that reason suppose that none existed, but imagined that it was something peculiarly abstruse and mysterious, too high to be an object of sense.

One may decide that a man who does not work is lazy. Having found a name for this behavior, one tends to assume that laziness is real and exists of itself, that it is an essence affecting certain individuals. Such is the customary view of laziness.

But Sir Heneage Ogilvie(2), the prominent British surgeon, has a different view. He says, "Laziness implies a lot of intelligence and it is the normal, healthy attitude

¹ Presented July 31, 1960 to the International Conference on General Semantics at Honolulu.

² 450 Sutter St., San Francisco 8, Calif.

of a man with nothing to do. Its great enemy is conscience—the fear of disapproval.”

So it is seen that laziness is merely a judgment pronounced on behavior. The only actuality is the behavior and one's attitude toward it. Laziness has no existence apart from the thinking of human beings.

Thus the names we give to concepts tend to enforce the habit of thinking in essences.

Suggestion : In the second place, names given to concepts have acquired strong charges of value, positive or negative, so that these names have a powerful effect on our attitudes and feelings. For example, if you tell a woman in good health that she is not looking well, she begins to feel unwell. Tell her that she is lovely, and she reacts accordingly.

This power of “word suggestion” is felt not only by the person named but also by the one who names. A woman becomes more beautiful to the man who thinks her lovely. If he thought, “She's not good-looking,” she would lose attractiveness in his eyes.

Thus to both subject and object words bring about important changes in attitude. This effect makes us feel that some essence called up by our words is really there, intangible and ineluctable, controlling our destiny. So it is that the values assigned to words reinforce the belief in essences.

Objectification : Language exerts still another pressure toward thinking in essences, because words, by suggestion, connotation, and metaphor, evoke the image of a physical object, capable of being seen and felt. For instance, we speak of someone as being hard, or soft, or smooth, or dull, or brilliant. Each of these is a metaphorical term suggesting a physical object.

Benjamin Lee Whorf(3) stressed this tendency of our language to designate abstractions by words suggesting physical objects. And he showed that some languages work in an opposite manner. European languages tend to *objectify*, that is, to treat an event as if it were a physical object. We objectify time when we speak of 10 days—or the events we call 10 days—as an aggregate seen at one time, like 10 men. But the Hopi Indians have a language

which refers to a world of *event*. They think of time as “getting later.”

Whorf says we carry about with us an imaginary space into which we project mental images. But the Hopi believe that the thought of an object, say a tree, goes out to that actual, existing tree. They do not conceive of thinking with mental images.

While the Hopi language stresses event, or what happens, European languages objectify, call up mental images. And these images bear a family resemblance to the Platonic forms, or ideas. Thus the tendency of our language toward objectification disposes to the belief in essences.

ESSENCE AND CHARACTER

The belief in essences leads to an essence view of character traits, and this does violence to the person in question. For a man convicted of an essence is denied appeal from this judgment. Such a finding puts an end to inquiry, preventing further questions.

In the case of the man who will not work, the finding of laziness, under the essence view, may satisfy the need for understanding, but the individual may be seriously misunderstood. He may appear lazy because he dreads revealing himself in action : he fears he will be found incompetent. Now a remedy for his “laziness” presents itself : he needs the training and experience necessary to assure him of his competence.

So if we discard the essence view, new avenues become available for exploration. We find that character traits depend upon a particular course of life and a particular attitude of mind, and this leads to typical decisions.

The man who seemed to be lazy may have had a childhood experience of excessive criticism from his parents. They may have expected too much from him at too early an age. He could never please them, and he came to have an abiding lack of confidence in himself. He feared revealing his incompetence, real or fancied, because he expected that his effort would be met by a chorus of disapproval. Thus are character traits developed, the so-called ingrained qualities of our nature.

ESSENCE AND SCHIZOPHRENIA

The concept of essence is a source of confusion not only with respect to character traits, but also with respect to the more extreme states of mind, such as the schizophrenic psychosis.

There is a strong tendency to assume that schizophrenia results from the working of some kind of inner essence. This remains true even when a term such as *process* of schizophrenia is employed. For in using this term one is inclined to accept the analogy of a seed that germinates, develops, and reaches full flower. In fact, some psychiatrists look upon schizophrenia as if it really were the result of a seed implanted in the person early in life or acquired hereditarily through the genes. Further, there is a feeling that the person who merely harbors the "seed" of schizophrenia is faced with a dreadful future, because of the process of the disease. The seed may germinate, feed upon its host, and destroy him.

Also, there is a belief that schizophrenia may exist in a latent form which at any time could break forth and take possession of the person, causing him to cease to be himself and to become psychotic. In this respect, psychiatry is under the influence of a demonology right out of the Dark Ages. For a man possessed by a process is not greatly different from a man possessed by a demon.

Under the influence of the essence view, one is inclined to accept the gloomy prognosis assigned to schizophrenia, to accept as sufficient evidence of a poor prognosis those patients who spend their lives in hospitals, bizarre in their conduct and withdrawn from human fellowship. But if we examine all the manifestations called schizophrenic, this poor prognosis is not confirmed by the facts.

Most psychiatrists engaged in hospital work have noticed an occasional patient admitted in a disturbed, delusional state, within a few days become apparently normal without benefit of treatment. In an office practice devoted to psychotherapy, it is not unusual to encounter a patient who in the first interview pours out enough delusional material to make hospitalization seem necessary. But in subsequent interviews he talks about fairly ordinary life

problems, and his fantastic delusions shrink into the background. Then there is the patient who recounts an episode from his distant past in which he was clearly psychotic, if only for an hour or so, but who then goes on to lead a life that is not otherwise unusual.

Often when an expert in the treatment of schizophrenia, such as Harry Stack Sullivan, is with a person who is schizophrenic, that person ceases to act in ways commonly known to be schizophrenic. For that time, at least, he is no longer schizophrenic.

All this suggests that schizophrenia is not an essence, but that it is *phenomenal*. It is the way a person may be in certain conditions of life. Given the right circumstances, just about anyone could be schizophrenic.

But the essence view of schizophrenia leads to misunderstanding, and it burdens the psychiatrist, as therapist, with a sense of futility and impotence. He regards the schizophrenic person as if he were the passive victim of a metaphysical process. This vision of an intangible and inaccessible entity leads to therapeutic despair and makes destructive methods of treatment, such as electric shock, insulin, and lobotomy, seem reasonable.

ESSENCE AND PSYCHOTHERAPY

Not only an essence view of *disease process*, but also an essence view of *treatment process*, may be a source of difficulty for a therapist. For he may be tempted to rest secure in what he conceives as the process of treatment. He thinks of such a process as having an objective existence, although somewhat mystical in nature, as if there were some vaguely defined entity of considerable power to which he might turn for help. By proper propitiatory gestures he can summon it up, control it, and make it work for him.

But have a care. This "entity," like a genie, may take offense and desert the effort just when a good start has been made. The good genie has a jealous nature and seems to be distinctly resentful of those therapists who are given to self-congratulation. For with attention focused upon the operation of metaphysical entities, a therapist can ignore real human events. He may fail to appraise properly the mute, dis-

sembling appeal of the person regarded as schizophrenic. (He may say that he hates you. He thinks you are a disguised Communist. He hopes you are not. He hopes you are his friend.) This lack of sensitivity and understanding is due to the mistaken feeling of confidence in what one "knows" about the schizophrenic process: the "withdrawal from contact," the "inability to form a relationship," and the "predominance of the primary process."

Concentrating upon the elements of an essence process, the therapist seeks to manipulate these abstractions in a way that is favorable to the process as it is conceived. For example, from theory, the opinion is deduced that a patient is in danger of developing a psychosis—a possibility that may be purely theoretical. So an attempt is made to forestall such a development by "strengthening the defenses." Thus preoccupied, one fails to notice when the patient is offended by statements intended to be therapeutic, because one is out of tune with him. Distracted by theory, these disharmonies are accounted for by relating them to "resistance," or "transference phenomena," or "not ready for therapy."

The elements of this theoretical process are nothing more than concepts which have been endowed with a metaphysical reality and a vital force. Reliance on such theory may lead to poor treatment.

What is needed is a clear recognition of the harm done to psychiatric thinking by acceptance of the essence concept. A close examination of the concept will result in its rejection, particularly as applied to a process of disease and treatment. Then reason will be found for making a clear distinction between an essence process and a phenomenal process. For a process is not an entity; it is merely a course of events.

THE PHENOMENAL POINT OF VIEW

The approach that I have found useful has antecedents in phenomenology. By this I mean simply the description of actual phenomena, avoiding all interpretation, explanation, and evaluation.

Such a point of view was first proposed in 1894 by Wilhelm Dilthey(4), the German philosopher, who wrote that

... the aim of psychology cannot be an explanation: for every explanation tries to reduce into elements; this aim is rather a *description*: ... a faithful narrative of what is seen as a whole direct by man himself. ... We contemplate ... with an understanding look.

In 1913 Karl Jaspers(4) reported the application of this point of view in psychotherapy. His method depends upon

... the completest and most careful description possible ... of what is experienced by healthy or by sick people, ... an exposition of what comes to show itself to us ... with imperative clarity. This ... is always a susceptible understanding: ... the inner self of another is never given to us direct: we try to enter into another's life and ask ourselves what we feel. ... Ultimately ... all phenomenology depends on introspection.

Jaspers opposed an "understanding" approach to a causal approach. But the causal approach has been dominant in psychotherapy. Sigmund Freud was always intensely interested in explaining mental phenomena. Yet he developed a method of treatment in which, as a necessary result of "free association," a full and complete description of the patient's experience occurs. Perhaps Freud, in his emphasis on interpretation, neglected an important source of the favorable change that does occur in psychoanalysis.

In America the foremost exponent of a phenomenal point of view is Carl R. Rogers. He apparently arrived at his position independently of the European phenomenologists. But a similarity to Jaspers is evident, to some extent, in the following:

Every individual exists in a continually changing world of experience of which he is the center. This private world may be called the phenomenal field, the experiential field, or described in other terms. ... Only a portion of that experience ... is consciously experienced. ... This private world ... can only be known, in any genuine or complete sense, to the individual himself. ... My actual awareness of and knowledge of my total phenomenal field is limited. It is still true, however, that potentially I am the only one who can know it in its completeness. ... Behavior might be best understood by ... seeing the

world of experience as nearly as possible through (the individual's) eyes(5).

In Rogers' view, therapeutic

change appears to come about through *experience in a relationship*. . . . Thus the relationship which I have found helpful is characterized by a sort of transparency on my part, in which my real feelings are evident ; by an acceptance of this other person as a separate person with value in his own right ; and by a deep empathic understanding which enables me to see his private world through his eyes. When these conditions are achieved, I become a companion to my client, accompanying him in the frightening search for himself, which he now feels free to undertake(6).

CONCLUSION

The task of the therapist, then, is a close attention to the experience of his patient, but *not* interpretation, explanation, or evaluation. What is needed for good treatment is that the therapist be "tuned in" on his patient, receive him clearly, and let him

know that he is understood. If he keeps close to the phenomenal, the psychiatrist can avoid the hazard of thinking in essences.

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CLINICAL NOTES

(The Clinical Notes report the findings of the authors and do not necessarily represent the opinions of the Journal.)

INCREASED CONTROL OF INSULIN COMA BY PRIOR ADMINISTRATION OF GLUCAGON : A PRELIMINARY COMMUNICATION ¹

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The hyperglycemic-glycogenolytic factor, Glucagon(1, 5), has been used extensively in our hospital(10) and elsewhere as an additional agent(2, 7, 8, 9) in Insulin Coma Therapy for rousing patients from deep coma so that they can swallow a sugar solution. Glucagon is thought to act by producing a transitory hyperglycemia due to its glycogenolytic action on the liver glycogen.

One of us (KTD) assumed that perhaps the administration of Glucagon before the insulin might reduce both the amount of insulin needed to produce coma as well as the time of onset of the coma itself. If this were found to be true, not only would it shorten the treatment time but it would also reduce some of the risks of ICT, as there is evidence that smaller doses of insulin are associated with fewer side and/or after-effects. A shorter phase 1 (during which time daily increasing doses of insulin

are given until coma ensues) is preferable because, in general, it is recognized that a decided improvement of the psychotic symptoms starts once comas are reached. It was also felt that such a procedure might be effective in producing a coma in previously coma-resistant schizophrenics.

A technique was thereby devised where 0.5 cc. of Glucagon was administered I.M. 4 hours prior to the insulin, *i.e.*, at 3:00 a.m. and 7:00 a.m., respectively. (Experiences after the period reported here show that it is preferable to use 1.0 cc. of Glucagon at 3 a.m.) This seemed a reasonable time to allow for the depletion of the liver glycogen stores and the return of the level of the blood-sugar in the venous blood to normoglycemic values.

This technique was clinically evaluated in two ways. One group of 11 patients, who were already in ICT and for whom coma doses of insulin had already been established, was switched to the Glucagon-insulin regime described, thus serving as its own control. A second group of 19 patients was started with the Glucagon-insulin treatment and compared with an earlier group of 179 patients who had been treated with insulin alone, either with single or multiple doses, excluding 30 patients treated by the Shurley-Bond technique.

Table 1 compares the established coma doses in the 11 patients of group 1 before we started to give Glucagon at 3 a.m. and after this technique had been started. Note that in all 11 cases use of Glucagon lowered the amount of insulin necessary to produce comas of equal depth. This held true whether one had used the Classical technique, the Shurley-Bond technique, or the Laqueur

¹ From the Insulin Treatment Teaching and Research Division (ITTR), under grant of the Manfred Sakel Foundation, Inc., at the Metropolitan State Hospital, Waltham, Mass.: Superintendent, William F. McLaughlin, M.D.

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TABLE 1
Reduction of Maintenance Insulin Dose Following
Administration of 0.5 cc. Glucagon I.M. at 3 a.m.

Patient (N=11)	Technique	Pre-Glucagon Insulin Dose	Post Glucagon Insulin Dose	Difference	Reduction of Insulin Units
K. K.	Shurley-Bond	660 units	400 units	-260	39%
A. T.	Shurley-Bond	600 units	520 units	-80	13%
A. M.	Shurley-Bond	470 units	400 units	-70	15%
L. N.	Shurley-Bond	550 units	380 units	-170	31%
T. M.	Laqueur	270 units	170 units	-100	37%
J. C.	Classical	260 units	60 units	-200	77%
G. F.	Classical	330 units	220 units	-110	33%
W. Z.	Classical	130 units	70 units	-60	46%
M. C.	Classical	70 units	40 units	-30	43%
E. C.	Classical	130 units	80 units	-50	38%
M. D.	Classical	100 units	60 units	-40	40%

TABLE 2
19 Patients Started on 0.5 cc. Glucagon Prior to Insulin

Patient	Technique	Treatment Day of First Coma	Dose for First Coma	Present Coma Dose
E. D.	Laqueur	5th	30 units	40 units
H. O.	Classical	5th	65 units	60 units
F. A.	Classical	3rd	50 units	80 units
H. K.	Laqueur	3rd	60 units	80 units
T. C.	Laqueur	2nd	30 units	90 units
J. O.	Classical	2nd	30 units	60 units
L. A.	Classical	6th	110 units	90 units
M. K.	Classical	5th	90 units	50 units
R. E.	Laqueur	8th	75 units	90 units
S. H.	Classical	13th	220 units	230 units
G. B.	Laqueur	10th	160 units	150 units
A. L.	Classical	7th	130 units	110 units
E. S.	Laqueur	10th	200 units	200 units
J. T.	Laqueur	6th	100 units	100 units
T. M.	Laqueur	8th	170 units	210 units
E. C.	Classical	4th	75 units	50 units
H. F.	Laqueur	6th	140 units	140 units
K. T.	Laqueur	2nd	40 units	40 units
M. V.	Classical	4th	60 units	60 units

technique for the day to day increase until the first coma had occurred. These changes are statistically significant by the non-parametric sign test (p less than .001).

Although it is unlikely that time alone—without added Glucagon—could account for this phenomenon, one should compare these changes in patients who remain on insulin alone over similar time periods.

Table 2 presents both the insulin coma dose and the number of days before the occurrence of the first coma for the 19 patients who started ICT with the pre-treatment use of Glucagon. Note that only the Classical and Laqueur techniques are employed here

because of the possibility of dangerous over-dosage if the Shurley-Bond technique were used in cases receiving Glucagon prior to insulin.

These data are compared with a previous group of 179 patients treated with insulin alone (see Table 3). Statistical analysis(3) reveals that both the mean of the dosage and the mean of the number of days to reach the first coma are significantly lower in the Glucagon group. Furthermore, the variability (F ratio) of the Glucagon group is also significantly less than that of the group treated with insulin alone.

In addition to the obvious importance of

TABLE 3
COMA DOSE REQUIRED FOR FIRST COMA
(in Classical or Lacquer technique)

	Insulin Alone (N=179)	Glucagon-Insulin (N=19)
Mean	147.6	96.6
Standard Deviation	94.4	58.6
Difference Between Means 51.0		
$t=3.36^{**}$		
$F=2.59^*$		
	Insulin Alone (N=179)	Glucagon-Insulin (N=19)
Mean	9.6	5.7
Standard Deviation	6.4	3.0
Difference Between Means 3.9		
$t=4.64^{**}$		
$F=4.43^{**}$		

* p less than .05.

** p less than .01.

the decrease in average dosage and the number of days to reach the first coma for the Glucagon-insulin form of treatment, the reduction in the variance of the dosage needed with this technique may have considerable clinical significance. This means that treatment with the Glucagon-insulin regime is more uniform, thus providing better control over the therapeutic situation.

So far, no untoward effects of Glucagon have been observed either when it was used to arouse patients from coma or in any of the 30 cases reported here. No differences in the course of coma were noted except for possibly a slight deepening in a few instances. Presently, 360 comas have been produced with Glucagon in the 19 patients of the second series, several of which are still under ICT. The daily preadministration of Glucagon tends to progressively reduce the amount of insulin needed to reach coma. In 2 patients, the doses required to produce coma after Glucagon could be reduced to as little as 25 units of insulin, one after a single injection, the other after multiple doses (after tabulation of Table 2). The reduction in insulin requirement, after Glucagon, should, therefore, be carefully gauged in the same ways as in ICT without preceding Glucagon: If coma begins before the end of the second hour and seems too deep, the dosage of the next day is reduced by 10 or more

units of insulin, but if the coma starts too late or is too mild, then an increase in dosage is given the next day.

It should be noted that Glucagon could safely be used to rouse the same patients from coma who were pre-treated with the hyperglycemic-glycogenolytic factor before insulin. It is probable that this arousal dose of Glucagon acts on glycogen reserves rebuilt by glyconeogenesis during the coma.

Secondary reactions are rarer and less severe in this Glucagon-treated group than had previously been observed in the cases not pre-treated with Glucagon. In one instance a patient became somnolent around 7:00 a.m. before she had received insulin, and the insulin was omitted for that day. In this case, it was possible to administer another dose of Glucagon on the following day successfully. (This patient was released after 62 comas without further unusual responses, and with a remission corresponding to a Grade 2 result(11).)

The effect of Glucagon administration on the C.N.S. appears to be different from that of hyperglycemia due to ingestion or injection of carbohydrates. Some observations point to the possibility that, because of the rebound of the regulation of carbohydrate metabolism, effects of Glucagon administration could be used to somewhat approximate the effects of subcoma insulin treatment.

CONCLUSIONS

We believe that the use of Glucagon for the arousal of patients from insulin coma and as a facilitating agent in the induction of insulin coma constitutes an important development in the modern treatment of schizophrenic psychoses, since it seems to render Sakel's treatment much easier to administer and contributes to its safety and economy.

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EFFECTS OF CHLORDIAZEPOXIDE IN SEVERELY DISTURBED OUTPATIENTS

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A series of 73 clinic patients, of whom roughly two-thirds were diagnosed as schizophrenics or as exhibiting psychotic symptoms, responded well to therapy with chlordiazepoxide (Librium)² in a study extending over a 6-months' period. This clinic acts as clearing house for the San Antonio State Hospital, screening new patients and taking over the care of others discharged from the hospital or on furlough during periods of remission. Our heavy work load makes it impossible to see patients at frequent intervals on an individual basis, and we have relied heavily on drug therapy.

Because of the large proportion of chronic and severe cases seen in this clinic the phenothiazines in variety have been the drugs of choice, despite their unpredictability and their tendency to produce side effects. In some cases these agents have apparently shortened periods of remission; more often they have failed to reduce anxiety and control undesirable behavior.

Reports of the high safety index of Librium and its specific action on anxiety led us to make the present study.

The population consisted of 31 males and 42 females, age range 16 to 73 years. The diagnoses included schizophrenic reactions 25 patients, psychoneurotic reactions 21, personality disorder 7, anxiety reaction 7, and affective reaction 5. The disturbance was often of long standing; 29 of the group had been hospitalized previously, often several times, and others had been under psychiatric treatment for many years.

The general run of patients were given Librium, 10 mg. b.i.d., or more often, t.i.d., and this amount proved acceptable as a maintenance dose in many cases. Duration of treatment ranged up to 6 months.

Seven patients were lost to follow-up. Of the 66 remaining cases, 39 were rated as showing excellent response; in 11 the results were good, in 4 fair, and in 6 poor. In 6 patients, hospitalized for electroshock therapy, no evaluation of Librium was attempted.

Thus 50 patients (75.7%) obtained good or excellent results from Librium medica-

¹ Director, San Antonio State Adult Mental Health Clinic.

² Trademark of Hoffmann-La Roche Inc., Nutley, N. J.

tion, and the alleviation or remission of symptoms was predominantly, rather than moderately, marked. The best response was in the psychoneurotic group (17 of 21), cases of anxiety reaction (6 of 7), and the 2 mentally deficient patients. However, the results in the schizophrenic group of 25 were especially noteworthy: 11 showed an excellent response and 4 a good response (60%). Of the 5 paranoid type schizophrenics 2 received some benefit, but the other 3 were hospitalized when Librium failed to control their symptoms. The drug was also of little value in the 2 manic-depressive patients.

Unless the patient was suffering organic brain deterioration, grave endogenous depression or a marked cyclothymic illness, Librium exerted what might be called a benign effect: obtunding of anxiety, phobias, obsessive thinking and compulsive behavior and initiating a more normal level of thought and action. Especially valuable was the psychostimulating action of Librium which enabled many patients to accept inevitable life situations and others to take positive steps toward recovery by joining group therapy and vocational rehabilitation programs.

A minimum of side effects was noted; 4 patients reported drowsiness and slight ataxia, 3 became nervous or overstimulated. These effects were reversed when Librium dosage was reduced, except in 2 schizophrenics.

SUMMARY

Of 73 outpatients with predominantly psychotic diagnoses the results of Librium therapy were excellent in 39 and good in 11. The drug relieved symptoms of anxiety, phobias, obsessive thinking and compulsive behavior, exogenous depressions, and conversion reactions. Librium was less effective in manic-depression, psychotic depressions and paranoid-type schizophrenia. Slight and transient side effects, mainly drowsiness and ataxia, occurred in a few cases. Patients with a long history of illness and hospitalization, who had not responded to previous medication with one or several of the phenothiazines, showed marked improvement under Librium therapy.

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LONG-TERM RESULTS OF FRONTAL LOBOTOMY IN SCHIZOPHRENIC PATIENTS

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This is a brief summary of results achieved in a series of schizophrenic patients who underwent a standard, closed frontal lobotomy operation during the period May, 1946 to December, 1950. The status of these patients on January 1, 1961 was recorded. Thus a period of approximately 10 to 15 years has elapsed since operation. Re-

sults in the operative group were also compared with those in a control group of patients, previously described (1), who had been approved clinically for the procedure but for whom operative permission had been refused. Progress reports were obtained by various methods on patients who were no longer hospitalized at this institution. They included direct telephonic inquiries, examination at outpatient clinic, reports from other hospitals, correspondence

¹ Respectively, the Clinical Director and the Asst. Superintendent, Fairfield State Hospital, Newtown, Conn.

TABLE 1
Status of Lobotomized and Control Patients

GROUP	TOTAL NO.	OUT OF HOSPITAL NO. - %	DECEASED NO. - %	HOSPITALIZED NO. - %
Operative group	200	50 - 25%	22 - 11%	128 - 64%
Control group	63	2 - 3%	11 - 17%	50 - 80%

and social service inquiries. Only one patient was lost from view. There were 200 patients in the lobotomy group and 63 in the control group with satisfactory follow-up information.

The current status of these patients is summarized in Table 1.

It is apparent that results in the lobotomy group, although limited, are definitely superior to those in the control group. The difference is statistically significant ($p < .001$).

It is pertinent to note that the death rate in the operative group is actually less than in the control group, indicating that the operation does not cause a specific increase in mortality rate during succeeding years. It might be indicated further that 2 of the deaths were associated with the occurrence of a convulsive seizure; the remainder were due to a variety of conditions not apparently associated with the original operation. In the control group, 3 of the deaths were due to pulmonary tuberculosis, all occurring before 1949. Although the problem is now much less pertinent, it may be noted that we have previously (2) commented on the beneficial effect of frontal lobotomy on tuberculous schizophrenic patients.

The very limited number of control patients currently out of the hospital again confirms the long accepted viewpoint that schizophrenia is characteristically a chronic disease and that the likelihood of discharge declines markedly after 2 years of hospitalization.

Aside from immeasurable operative variabilities, analysis of the factors which may have contributed to good or poor results in the lobotomy group revealed the following data. Correlation with the type of dementia praecox, as previously suggested (1), was quite well crystallized. Thus, only 10% of hebephrenic and simple subgroups were

out of the hospital, as compared with 28% of catatonic and paranoid subgroups and 50% of mixed or undetermined types. It may be inferred that those patients who exhibited hebephrenic features predominantly and relatively early in the course of the disease, i.e., those afflicted with so-called "nuclear" or "ingrained" dementia praecox, experienced generally poor results, while those whose disease pattern was admixed with affective or other "impure" schizophrenic features had the best outcome. In similar vein, although not so readily subject to statistical analysis, was the observation that withdrawn, inert, emotionally constricted and deteriorated patients exhibited generally poor results as compared with those who were aggressive, disturbed or emotionally reactive.

With respect to chronological factors, it was noted that 31% of patients whose illness began after the age of 25 were out of the hospital, as compared with only 19% of those whose illness began before age 25. Thus, earlier onset of illness was associated with poorer results. Similarly, with respect to chronicity of illness, the total duration of illness prior to operation was less than 5 years in 51% of the patients out of the hospital as compared with 30% of those still hospitalized.

Thus it may be concluded that frontal lobotomy, like all other known modes of therapy in schizophrenia, achieves its optimal results in patients whose illness is associated with long recognized favorable prognostic criteria.

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AN EVALUATION OF AESCIN (AN EXTRACT OF HORSE CHESTNUTS) IN THE TREATMENT OF THE PSYCHOSES OF THE SENIUM

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Historically, the horse chestnut has been used as a folk remedy since the Middle Ages. In 19th century writings it is ascribed as having beneficial effects on varicose veins, ulcers, hemorrhoids and other diseases involving "venous and lymphatic congestion."

An extract of the horse chestnut (*Aesculus Hippocastanum*) has been made available, under the trade name of "Reparil."² "Reparil" is characterized as the sodium salt of aescin, a saponin. Over 50,000 doses of this substance have been administered to patients suffering from various forms of edematous reactions, such as the edemas following acute brain trauma, various bone fractures, and venous thromboses. The available German literature states that in these conditions aescin has been of value. Experimental studies indicate that aescin effects the selective permeability and the dynamic equilibrium of blood vessel walls. This plus the clinical observation of its favorable effect on the altered states of consciousness following acute brain trauma, led us to conduct a screening evaluation for any possible beneficial effects of aescin on patients ill with psychoses of the senium.³

The population sample which we used consisted of 10 patients, chronically ill; 8 having been diagnosed as "psychosis with cerebral arteriosclerosis" and 2 as "senile psychosis." The patients ranged in age from 62 to 76, with a mean age of 70 years. These patients had previously been followed for periods ranging from 1-2½ years in other pharmacological evaluation programs and were known to have shown no appreciable response to oral or intramuscular medications. The 10 patients served as their own controls. One of the reasons for the relatively small patient population was the necessity

for administering the aescin intravenously, since it is inactivated when administered by other routes.

The patients were initially evaluated for level of mental functioning and physical status; baseline hemograms and urinalyses were done. Blood chemistry determinations included serum glutamic oxaloacetic transaminase, blood urea nitrogen, and direct and indirect serum bilirubin (bilirubins were done, since it is known that horse chestnut extracts are to some degree hemolytic). The mental functioning evaluation consisted of 5 parts: a psychiatric interview, a scored mental status test, a scored evaluation by ward personnel, the "Wechsler Memory Scale," and 6 of the "Wechsler Adult Intelligence Scale" subtests, *i.e.*, information, arithmetic, digit span, vocabulary, picture completion, and block design. Laboratory determinations were done weekly, and the other evaluations at the beginning and end of the study.

Two milligrams of aescin solution were given daily intravenously, except Saturday and Sunday, to a total of 34 injections for each patient.

The evaluation of the results of therapy showed one patient with a mild improvement in overall mental functioning and 2 patients who appeared more cheerful and cooperative following therapy. These changes may have resulted from the drug or from the increased attention necessitated by daily I.V. injections. At the beginning of the study 6 patients showed a mild to moderate pedal edema. There was a progressive decrease in the amount of pedal edema in 5 of these patients. The laboratory studies showed no evidence of toxicity.

There was an overall decrease in the amount of pyuria shown in the group. One possible explanation of this is that because of its antiedematous action, aescin reduces the size of the hypertrophic prostate so prevalent in this age group with a resultant favorable effect on partial urinary obstruc-

¹ Rockland State Hospital, Orangeburg, New York.

² Aescin supplied as "Reparil" by Dr. Madaus & Co., Köln am Rhein.

³ The authors wish to thank Jacob Arnold, R.N. for his assistance in conducting this study.

tion. The indications that aescin has a generalized antiedematous action suggests that it may be of more value in situations where edema of the brain plays a pathological role, *e.g.*, acute brain trauma, early cerebral vascular accidents and perhaps epilepsies.

In summary, the administration of 34, 2 mg. I.V. injections of aescin to 10 patients with psychoses of the senium produced no significant beneficial effect on their mental function. Evaluation in other conditions, including uropathy with pyuria, should be considered.

DRUG-INDUCED HEPATIC INJURY: MARPLAN HEPATITIS¹

JAMES A. KNIGHT, M.D.²

The following case is reported because the findings are highly suggestive of a toxic hepatitis related to one of the amine-oxidase inhibitors, isocarboxazid (Marplan).

A 23-year-old white woman suffering from a moderately severe endogenous depression was started on Marplan, 10 mg. t.i.d., on December 1, 1959, and this dosage level was continued with one interruption until March 23, 1960. The patient was seen at weekly intervals and on February 24, 1960, complained of a skin rash. Medication was discontinued for 1 week, during which a dermatologist diagnosed the skin rash as pityriasis rosea and prescribed Benadryl. The Marplan regimen was resumed on March 2, 1960. The clinical assumption was that the rash was not related to the Marplan therapy.

During the patient's regular visit on March 23, 1960, her jaundice was noted immediately. During the preceding several days she had noticed a progressively deepening yellowness of her skin and eyes. She had a loss of appetite, and any intake of food was followed by nausea. Also she lost her taste for cigarettes. Her urine had become dark and her stools light. Marplan was discontinued, and the patient was hospitalized. The total amount of Marplan she had received was 3.18 gms.

On admission the positive physical findings were markedly icteric skin and sclerae; tenderness over the abdomen, especially in the right upper quadrant; hepatomegaly (liver margin palpable 4 cm. below costal margin); and disseminated erythematous scaling eruptions over the trunk and extremities, previously diagnosed as pityriasis rosea and now beginning to heal.

At admission several laboratory values were

elevated: SGP Transaminase, 540 u/ml.; SGO Transaminase, 150 u/ml.; alkaline phosphatase, 35 units (K-A); cephalin flocculation, 2+; thymol turbidity, 5.6; bromosulfalein retention, 8%; bilirubin, 6.8—indirect, 2.9, direct, 3.9. The urine contained bile. The following laboratory tests were normal and remained so throughout the illness: urea nitrogen, blood sugar, serum proteins, cholesterol, prothrombin time; hematologic studies, including hemoglobin, WBC, differential, platelet count, reticulocyte count, bleeding and clotting time; and serology.

The patient remained in the hospital 34 days. There was a gradual clearing of her jaundice, and she was asymptomatic at the time of discharge. She remained free of fever while in hospital. The elevated laboratory results returned to normal levels by the end of 3 weeks.

One week after hospitalization a needle biopsy of the liver was performed. The surgical pathology findings are given as they were reported by Dr. James C. Brennan:

"Microscopic Description: The portal triads in all areas are heavily infiltrated by inflammatory cells amongst which mononuclear cells predominate but polymorphs and significant numbers of eosinophils are present in all areas as well. The inflammatory exudate in the portal triads tends to erode into the peripheral limiting plate of liver cells and distort this area. Some of the liver cells at the periphery of the lobules have disintegrated into small cell lakes associated with bile stasis here. In the lobules there is irregular arrangement of liver cells in some areas and little or no change in others. A dominant feature is the presence of focal and rather irregular necrosis of liver cells occasionally with the formation of large acidophilic bodies which are being excreted into Disse's space. There is considerable nuclear regenerative activity in the central zones and the mid zones of these lobules whilst in the central

¹ Bibliography available on request.

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zones as well there is some atrophy and some excessive staining of liver cells by bile pigment. The histology presented favors more a toxic hepatitis than a purely allergic hepatitis or a viral infectious hepatitis.

"Diagnosis : Needle biopsy of Liver : Active toxic hepatitis (subacute), probably due to Marplan therapy. The presence of eosinophilia in the portal triads, usually associated with chlorpromazine-type hypersensitivity hepatitis, along with a subacute necrotizing process of the hepatic cells is a morphologic picture more commonly seen

with toxic drugs than with a primary necrotizing agent such as viral hepatitis where eosinophilia in the portal triads is relatively unusual. The absence of feathery degeneration or cell ballooning in the lobules is also against the diagnosis of infectious hepatitis."

Nine months have elapsed since the patient's discharge from the hospital, and she has remained free of any symptoms or signs of liver disease during that period.

Marplan has thus joined the ranks of Marsilid and Catron in producing hepatic toxicity.

EXPERIENCES WITH ELAVIL : TREATMENT OF FIFTY-ONE CASES OF DEPRESSION ¹

MAURIE D. PRESSMAN, M.D.,² AND LAWRENCE B. WEISS, M.D.³

Fifty-one cases of depression of various types (41, involuntional or reactive depressions) were treated with the new drug, Elavil. Most patients (45) were over 45 years old. Roughly, half were severely depressed and half mildly so. There was a special group of 20 depressed patients who also had hopeless physical situations. We consider this group of special interest.

Our patients were routinely placed on 100 mg. per day and dosage adjusted up or down, from 50 mg. to 200 mg. per day.

Results : Improvement usually began after 2½-3 weeks, but varied between extremes of 4 days to 6 weeks. Seventy-nine percent were moderately improved, greatly improved, or recovered. If these studies were corrected to exclude patients who had uncertain diagnoses, as well as those who did not faithfully take medication, these results would be even better.

The results in the patients who had depressions accompanying hopeless physical conditions (such as hemiplegia with aphasia, or advanced Kummelstiehl-Wilson's

disease) were gratifying ; 80% recovered or showed moderate to considerable improvement. One would have thought that these patients were depressed only in proportion to their physical disasters.

Medical observations : These were carried out in detail, as well as thorough laboratory testing (alkaline phosphatase, blood sugar, B.U.N., C.B.C., urinalysis, and, where indicated, other liver studies) and showed no hepatic or hematopoietic derangement.

Side Effects : Generally speaking, the side effects are unimportant, with the exception of marked torpor and sleepiness. This occurred in 18% and could be controlled by halving dosage for 5 days. Other side effects were : dizziness, sweats, hypotension, constipation, difficulty starting urine, blurred-dim vision, and epigastric burning. We believe that the side effects are less severe than with Tofrānil, Elavil's near relative, and that this drug has a beneficial tranquilizing effect which is absent with Tofrānil.

We would like to re-state our particular interest in the findings that the group of 20 patients, whose depressions accompanied very severe physical incapacity (such as C.V.A. with hemiplegia and aphasia), responded very well. The improvement in depression helped them to undertake physical therapy and rehabilitation which they had been unable to do before administration of anti-depressant medication. This allowed

¹ This study was made possible by a grant from Merck, Sharpe & Dohme. It was carried on at the Psychopharmacological Clinic of the Albert Einstein Medical Center, Northern Division, Philadelphia 47, Pa.

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them to better their physical situations. We feel that the administration of anti-depressants to patients whose depression is *seemingly* in proportion only to their great physical loss, is a new area of application. It is our belief that very frequently such patients have a degree of depression and hopelessness which goes beyond a simple reaction to their physical impairment.

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SERUM TRANSAMINASE TESTS FOR LIVER FUNCTION ON OUTPATIENTS IN FOLLOW-UP CLINIC

YUDELL K. SLOCUM, M.D.¹

A study was conducted on 90 outpatients who were receiving assorted ataractic drugs over a prolonged period. The purpose of this study was to determine whether or not continued treatment with the ataractic drugs would produce liver change. These patients had all been hospitalized prior to their outpatient care and had been treated with different ataraxics until their maintenance dosage on particular drugs was determined.

These patients had been mentally ill for a time range of 1 to 46 years. Forty patients (44%) had been ill from 1 to 10 years; 42 (47%) from 11 to 20 years; the remaining 8 (9%) over 20 years.

The age range of the patients was 25 to 67 years, average 42 years.

The time during which these patients received ataractic drugs on the follow-up service extended from 1 month to 4 years. Twenty-seven (30%) received medication for 1 to 6 months; 34 (38%) 7 to 12 months; 23 (26%) 2 to 4 years; the remaining 6 (6%) 2 to 4 years. The drugs prescribed were the 7 more commonly accepted ataraxics used today (Table 1).

The serum transaminase determination

¹ Veterans Administration Hospital, Northport, N. Y.

TABLE 1

Ataractic Drugs and Average Daily Dose of 90 Patients in a Follow-Up Clinic

NO. OF PATIENTS	DRUGS	AVERAGE DAILY DOSE (mg.)
26	Thorazine	150
20	Trilafon	24
13	Stelazine	6
13	Compazine	30
5	Mellaril	150
5	Vesprin	150
5	Equanil	400
3	Serpasil	.75

was done since it is an indicator of acute cellular damage of the liver due to any cause and has been recommended for periodic screening of patients maintained on drugs potentially toxic to the liver (1-3).

The study shows that of 90 outpatients on various levels of drugs, 89 had a normal transaminase test. One patient showed an abnormally high level (the lowest pathological level), although he continued treatment with the mildest ataraxic. He was a known alcoholic and the results of this test may have been due to a liver showing changes of damage prior to use of the drug (Equanil, 200 mg. daily dosage).

These tests followed a 4-year period of

treatment with the drugs. Although results were normal, it is still felt that a regular test of the liver and an occasional blood count should be done for the benefit of those receiving such medication.

CONCLUSIONS

The dosage of ataraxics which these patients were receiving was considered to be their maintenance dosage and the smallest amount of treatment necessary, which may be the reason for the negative reports of liver damage. The effect of the medication on the individual patient, not the medicine or chemicals themselves, must be the primary consideration in all treatments(4). It is felt that the medication has kept these

patients out of hospitals and helped them in adjusting for prolonged periods without the risk of harmful effects on the liver, even though they are not cured of their original mental illnesses(5).

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IMIPRAMINE (TOFRANIL) IN THE TREATMENT OF ENURESIS

ANNA J. MUNSTER, M.D., ALFRED M. STANLEY, M.D., AND
JOHN C. SAUNDERS, M.D.¹

In a previous clinical note, MacLean² reported on the favorable results of giving imipramine to children for bed wetting. We initiated this study to evaluate further the efficacy of this method of treatment.

We selected 16 female patients from the same building with the chief complaint of "weakness," i.e., enuresis. All of these girls (ages 8-16 years) had previously cooperated in the hospital program for the relief of their enuresis. This program included psychotherapy, both individual and group as well as tranquilizers, voluntary fluid control and tincture of belladonna. With this treatment there was at times transient improvement but consistent relapses occurred often accompanied by guilt feelings and self-accusations. Other adolescents reacted to relapses not as personal failures but by rejecting their family or by attempting to manipulate the physician. Only those who presented a consistent pattern with high frequency of enuresis were selected for imipramine therapy.

We administered imipramine once at bed-

time either in dosage of 25 or 50 mg. depending on age and physical development. Patients under 12 years or over 12 but retarded physically, were given 25 mg.; those over 12 years or under 12 but physically precocious were given 50 mg. imipramine. The tranquilizers, reserpine or phenothiazine, which they were receiving, alone or in combination, for their psychoses were continued during the periods of imipramine therapy.

The response to treatment with imipramine was completely satisfactory in that all patients experienced alleviation of their enuresis and this confirms the findings reported.² The response to therapy occurred following the first dose and continued through the period of therapy. When the therapy was discontinued the enuresis returned immediately. We repeated the therapeutic cycle with imipramine 3 times and the response was consistent alleviation of enuresis while receiving the drug.

This effect cannot be interpreted as a placebo response since the girls continued to receive the tranquilizer therapy both with and without imipramine. If they were placebo responders at least some of them would have responded to one of the tranquilizers

¹ Rockland State Hospital and Research Facility, Orangeburg, N. Y.

² MacLean, R. E. G. : *Am. J. Psychiat.*, **117** : 511, 1960.

and that they did not do. The tranquilizer therapy was discontinued in one patient and she responded to the imipramine and enuresis returned when it was discontinued. Since MacLean used only imipramine we also conclude that it is the essential agent in controlling the enuresis.

In conclusion, we find imipramine to be

an effective and safe drug for the alleviation of enuresis in adolescent females and that this effect is not a placebo response is indicated by our study. The alleviation of enuresis permits home care or agency placement when previously this condition was put forward as an excuse to prevent acceptance.

DIABETIC CONTROL WITH CHLORPROPAMIDE IN A PSYCHIATRIC HOSPITAL : A PRELIMINARY REPORT

THOMAS G. LUPO, M.D., AND STANLEY M. TARNOWSKI, M.S.¹

Management of diabetes within a psychiatric hospital creates many special problems. We were interested in the practicability of converting a group of diabetic psychiatric patients from insulin to chlorpropamide (Diabinese).² Thirty diabetic patients whose psychiatric diagnoses were predominately schizophrenia were chosen for study. Insulin requirement for the group was 5 to 100 units; the age range 30 to 60 years.

During the control period and concurrent with the chlorpropamide medication, standard laboratory procedures relative to liver and renal functions, hematological aspects and glucose levels of body fluids were accomplished. Chlorpropamide substitution for insulin was on the basis of 100 mg. chlorpropamide for every 10 units of insulin administered. Those taking 20 or less units of insulin were immediately converted to the chlorpropamide. Those requiring from 20 to 100 units took up to 10 days for complete switch-over. Twenty-two patients were successfully converted from insulin to chlorpropamide. Nine patients whose insulin requirements were 5 to 25 units (usually NPH insulin) were satisfactorily controlled over a 6-month period with chlorpropamide. The initial dose was 250 mg. One patient of this group required 500 mg. of the drug daily for control. Another group of 9 patients required from 30 to 50 units of insulin daily. Their initial dose of chlorpropamide was 250 mg. Satisfactory diabetic control was accomplished over a 6-month period with dosages varying between 250 mg. to 500 mg.

daily. Four patients whose insulin requirements were 55 to 100 units daily were satisfactorily controlled for 6 months with 500 to 1000 mg. of chlorpropamide daily.

Eight patients originally included in the study were soon dropped because of the development of skin disorders resembling dermatitis medicamentosa (5 patients) and unsatisfactory diabetic control (3 patients). No permanent unfavorable side reactions relative to hematological, kidney or liver involvement were noted in this study.

Preliminary results indicate that in some patients with concurrent psychiatric conditions control of diabetes with chlorpropamide is practical. Twenty-two patients with insulin requirements up to 100 units daily were successfully converted to this oral hypoglycemic agent. Any reduction in the amount of work necessary to prepare and treat some 35 to 40 diabetics on a psychiatric ward is of course noticeable and very welcome. Our pilot study reduced the amount of necessary injections approximately one-half. One of the most satisfying results was a definite improvement in the morale and emotional outlook of diabetic patients. Most of them have come to accept the nurses, nursing assistants and ward physician as less punitive and dictatorial individuals. They are now more receptive of other avenues of approach and treatment of their psychiatric problems. The largest benefits will have been realized when these patients after returning to their homes, can enjoy a more carefree and normal existence. We readily recognize that the supervision of psychiatrically disabled individuals in their home environment is diffi-

¹ Veterans Administration Hospital, Waco, Tex.

² Supplied by Pfizer Laboratories.

cult enough without superimposing the problem of diabetes and the responsibilities which go with it. When the treatment of diabetes is reduced to that of merely taking a pill it so simplifies the patient's care and needs, that it allows the family to pay more attention to the emotional needs of the individual. Several patients have already gone on leaves of absence and trial visits, remaining away from the hospital as long as 3 months and have written to us reporting

that they are now realizing the benefits of oral hypoglycemic substitutes for insulin. Before they were released from the hospital, our primary concern was whether or not these patients and their families would accept the importance and seriousness of correct medication in the form of a pill with the same respect given previously to insulin. From the reports it appears that our fears were unwarranted. In the meantime our hospital study continues.

CASE REPORTS

EFFECT OF IMPRAMINE (TOFRANIL) ON DEPRESSION AND HYPERKINESIA IN HUNTINGTON'S DISEASE

J. WHITTIER, M.D., G. HAYDU, M.D., AND J. CRAWFORD, M.A.¹

Since Huntington's report in 1872(1), depression has been recognized as a frequent symptom in the syndrome of chronic progressive hereditary chorea.

A remarkable decrease in depression was observed under treatment with imipramine (Tofranil, Geigy) in a female outpatient having the disease.

A 41-year-old white housewife was referred for study to Creedmoor Institute in August 1959 by a local psychiatrist. Her mother had died at 71, having had Huntington's disease for 29 years.

Six years prior there had been onset of diminution in interest, slowing of activity, and fatigue. She was at that time found to be mildly hypertensive. Hyperkinesia appeared 4 years later, manifested by mild choreoid activity of feet or legs, extension-flexion movements of the trunk and inability to sit still, the latter especially noticeable during attendance at church. Gradually, depression appeared. Activities became effortful. She was bored with work, could not force herself to do housework or former hobbies, and began to lie down several hours each afternoon. With progression of the illness, she said that she wished she were dead, hated to return to the house after trips, stopped laughing altogether and smiled only rarely. It was soon necessary for her husband to bathe her, to help her dress, and to comb her hair. She began to remain bedfast most of the day due to weakness, became occasionally incontinent of urine and feces, retained food and saliva in her mouth for long periods, and had to be reminded to keep herself clean. There was gradual weight loss from 132 lbs. to 116. Medications had included reserpine to total daily dose 6 to 8 mg., which diminished the hyperkinesia somewhat, but was accompanied by somnolence.

Following examination at the Institute, recommendation was made to the local physician for a trial of imipramine 25 mg. t.i.d., increased to q.i.d. if no change ensued. One month later,

the husband reported that dosage had been increased to 100 mg. daily after 10 days, her mood had improved markedly, her appetite had increased, and she had begun to take interest in former activities. An increase in blood pressure was noted by her physician, and treated. Mood and behavioral improvements continued through the fall with family and friends recognizing "amazing change" from the previous summer. She returned to baking cakes and pies, no longer required assistance in bathing, dressing, or toilet care and took only occasional naps. Weight gradually increased to 139 lbs.

Re-examination at the Institute May 26, 1960, 9 months after imipramine was begun confirmed reports of change by physicians and family. Frequency, amplitude, and forcefulness of choreoid activity were noted to be somewhat increased.

The only other report of increase in the hyperkinesia of Huntington's disease under treatment with antidepressant medication known to us appeared in an entry under "side effects" in 1 case given tranylcypromine (Parnate, SKF)(2). Trial of imipramine and other antidepressants in treatment of depression associated with Huntington's disease, and systematic investigation of effect of these drugs on hyperkinesia appear warranted.

SUMMARY

A case of Huntington's disease is reported showing remarkable improvement in mood and behavioral manifestation of depression under treatment with imipramine. The choreoid hyperkinesia was observed to increase in severity.

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¹ Creedmoor Institute for Psychobiologic Studies, Queens Village, N. Y.

REPORT OF A CASE OF CARCINOMA OF THE LUNG WITH METASTASIS TO THE BRAIN, SIMULATING PICK'S DISEASE

JAMES K. HALL, M.D.¹

The patient, a 64-year-old woman, was admitted to the sanatorium on October 9, 1955. She had had considerable examinations in other hospitals and by other physicians prior to admission to Westbrook. The patient had no complaints but she had shown personality change and failing memory since early 1954, at least. Neurological examination in December, 1954 was entirely normal, but x-ray of the left lung showed an "oval density 4 x 3 cms. near the periphery of the left first interspace. It was well-defined and apparently of long standing with no excavation." The impression was that degenerative cerebral disease was the most likely cause of symptoms. The nature of the pulmonary disease was undetermined at the time (December, 1954) and surgical intervention was decided against.

At examination in March 1955, the patient's indifference, perseveration, and memory difficulty had increased. Pneumoencephalogram revealed moderately diffuse cerebral atrophy with some dilatation of the ventricular system. Electroencephalogram was compatible with the diagnosis of cortical atrophy with evidence of greater involvement on the left side. No localizing neurological signs were found. Ophthalmologic examination revealed no significant ocular pathology and visual fields were full.

The patient remained at home between March and October, 1955 but her activities had to be restricted and this resulted in some irritability. She no longer could be allowed to drive a car after she side-swiped three or four cars one day. She claimed that happened when a package fell off the front seat and she reached down to get it. She and her husband went to Europe in the summer of 1955 and he noted that her reactions then were far from normal.

On admission to Westbrook, custodial care was all that was expected could be provided for the patient. The diagnosis of a presenile organic brain condition such as Pick's or Alzheimer's disease seemed assured. The lesion in the apex of the left lung was known to be present, but several x-rays had revealed no change in it. A psychological test on October 30, 1955 supported the diagnosis of chronic brain syndrome.

The patient died May 2, 1958. For several weeks she had gradually become weaker, there was some vomiting (probably of cerebral origin) and there was moderate fever. The downhill course continued despite treatment with antibiotics and intravenous feedings.

The patient's mental condition gradually deteriorated during hospitalization. She was at all times quite indifferent to her surroundings but usually pleasant and friendly in manner, although frequently restless and wandering about the building at night. Visits from family and friends seemed to mean little to her. She became progressively more untidy in her habits.

Autopsy revealed carcinoma of left upper lobe of lung with metastasis to lungs, anterior and posterior mediastinal lymph nodes, adrenals, thyroid, and cerebellum. There was compression of the fourth ventricle by metastatic tumor, and internal hydrocephalus. The cortex showed no appreciable loss of neurons, and no evidence of vascular disease. The brain stem showed no change other than pressure effect in the region of the fourth ventricle. Sections of the cerebellum showed adenocarcinoma identical to that seen in the lung and elsewhere, with abundant mucin production.

The lungs revealed the tracheo-bronchial tree filled with purulent mucus. Both lungs were studded with 1-2 mm. firm gray nodules throughout all lobes. In the left upper lobe there was a 6 cm. gray mucinous mass surrounding the superior segment bronchus. There was extensive involvement of lymph nodes in the chest cavity and of the adrenal medulla by metastatic carcinoma.

The liver, pituitary, heart, aorta, skin, pancreas, and spleen were not remarkable.

The brain in the fixed state weighed 1450 grams. The dura was adherent to the skull, the vessels showed no appreciable atheromatous deposit. The left meninges were somewhat cloudy. There was no appreciable widening of the sulci nor narrowing of the gyri. The vessels at the base of the brain were delicate and showed very minimal atherosclerosis. No thrombi were demonstrated. Multiple parallel sections were made through the brain. The lateral ventricles were considerably dilated, as was the third. No focal lesions were seen in the cerebral hemispheres. The aqueduct of Sylvius was dilated. The central portion of the

¹ Westbrook Sanatorium, Richmond 27, Va.

cerebellum was replaced by a 5 cm. mucinous tumor lying in the midline, adherent to the dura, and compressing the fourth ventricle which was not dilated distal to the point of compression.

It would seem probable that this patient's brain pathology and mental symptoms were due entirely to the metastatic tumor in the cerebellum which resulted in internal hydrocephalus. The patient had given evidence of organic brain disease for at least 4 years.

The case is considered interesting because there were no localizing neurologic signs despite extensive involvement of the cerebellum, and the patient's mental condition seemed so typical of a presenile organic disease such as Pick's. The increased incidence of lung cancer may be expected to result in other cases with intracranial metastasis and organic brain symptomatology.

COMMENTS

CHICAGO MEETING HIGHLIGHTS

The 117th Annual Meeting of the American Psychiatric Association was held at the Morrison Hotel, Chicago, Illinois, May 8-12, 1961. The total registration was 4,292 including 2,054 members, 1,385 non-members, 519 wives of members, 274 exhibitors and 60 press representatives. The Program included 123 scientific papers and 24 Round Tables.

The opening exercises were called to order by the President, Dr. Robert H. Felix, at 9:30 a.m. on May 8. The Invocation was given by the Right Reverend Gerald Francis Burrill, Episcopal Bishop of Chicago, followed by welcoming remarks by the Honorable Otto Kerner, Governor of Illinois. After the President had introduced Dr. Walter E. Barton, President-Elect, several Awards were presented. Professor Sheldon Glueck, Roscoe Pound Professor of Law at Harvard, was announced as the 10th winner of Isaac Ray Award for outstanding contributions in furthering understanding between the law and psychiatry. As recipient he will deliver a series of lectures at Tulane University during the 1961-1962 academic year. The Hofheimer Prize was awarded to Seymour Levine, Ph.D., of the Maudsley Hospital in England and several co-researchers for studies on infantile experience and the effects thereof upon maturation of the neuroendocrine system. The winner of the 1960 Mental Hospital Achievement Award was the Larned (Kansas) State Hospital, with Honorable Mention Awards to the Mental Health Institute of Clarinda, Iowa and to the New Jersey State Hospital at Marlboro. Reports were presented by Dr. John R. Saunders, Speaker of the Assembly; Dr. Mathew Ross, Medical Director; Dr. C. Knight Aldrich, Co-Chairman of the Arrangements Committee; and Dr. John Donnelly, Chairman of the Program Committee. The Secretary, Dr. C. H. Hardin Branch, announced the official membership count as of March 31, 1961 as 11,637 and the Treasurer, Dr. Addison M. Duval, presented a financial report. The

membership was considerably enlarged with the approval of the candidates recommended by the Membership Committee and the Council. A total of 682 new members were added—372 Associate Members and 310 Members. Of this number, 10 Associate Members and 7 Members had previously been approved by certified District Branches so that further action was not necessary. An additional 180 candidates were advanced from Member to Fellow. Upon recommendation by the Policy Committee and the Council, the Prairie Provinces District Branch (Alberta, Manitoba and Saskatchewan) was approved by the membership bringing the number in the Assembly to 53. The Presidential Address, entitled "Psychiatrist, Medicinæ Doctor," was delivered by Dr. Felix with the response by Dr. Barton. Dr. Earl Bond read a Memorial to the late Past-President Arthur H. Ruggles which was followed by a moment of silence in memory of the deceased members of the Association. The Opening Exercises were closed with a Benediction by the Reverend Vincent V. Herr, S.J., Chairman of the Psychology Department of Loyola University, Chicago.

The first Business Session was called to order by the President on Tuesday afternoon, May 9, at 2:00. Dr. Evelyn Ivey, Chairman of the Board of Tellers, announced the results of the election of Officers for 1960-61 as follows: Dr. C. H. Hardin Branch, President-Elect; Dr. Henry W. Brosin, Vice-President; Dr. Titus H. Harris, Vice-President; Dr. Harvey J. Tompkins, Secretary; Dr. Addison M. Duval, Treasurer; and incoming Councilors, Dr. Alfred Auerback, Dr. Herbert S. Ripley, and Dr. Cecil L. Wittson. Reports were presented by the three Coordinating Committee Chairmen: Dr. Harvey J. Tompkins, Technical Aspects of Psychiatry; Dr. Howard P. Rome, Professional Standards; and Dr. Paul V. Lemkau, Community Aspects of Psychiatry. After a brief recess, the Convocation of Newly Elected

Fellows began with the Processional March at 3:00 p.m. A total of 133 new Fellows attended the ceremony. The Fellowship Lecture was presented by Dr. Seymour S. Kety, Chief, Laboratory of Clinical Science, National Institute of Mental Health, on "The Heuristic Aspect of Psychiatry." The ceremony was concluded with a Recessional March.

The second Business Session was held on Wednesday morning, May 10, and was called to order by the President at 9:30 a.m. The Secretary presented his report to the membership reviewing the actions of the Council since the last Annual Meeting. These were approved on motion from the floor. The most significant item in the report was a proposed raise of dues in the amount of \$5.00 for Associate Members and \$10.00 for Members and Fellows. This proposal was approved by the Council as recommended by the Budget Committee. Following a discussion of the matter, the proposal was approved as a separate item of business.

The Annual Dinner was held on Wednesday evening at 7:30 in the Terrace Casino of the Morrison Hotel. The President introduced the foreign guests and the representatives of other professional associations who were in attendance. Dr. D. Ewen Cameron presented inscribed gavels to each of the eight Past-Speakers of the Assembly: Dr. Joseph Abramson, 1953-1954; the late C. N. Baganz, 1954-1955, received posthumously by Mrs. Baganz; Dr. Addison M. Duval, 1955-1956; Dr. Mathew Ross, 1956-1957; Dr. Walter H. Obenauf, 1957-1958; Dr. David C. Wilson, 1958-1959, received in absentia; Dr. Alfred Auerback, 1959-1960; and Dr. John R. Saunders, 1960-1961. The Past-President's Pin was presented to Dr. Felix by Dr. Earl D. Bond, the oldest surviving Past-President. The evening's entertainment was concluded with dancing.

The final Business Session was held on Friday morning, May 12, at 11:30. After calling the meeting to order, Dr. Felix spoke briefly regarding his Presidency and expressed his appreciation to the membership and to the staff for their assistance and cooperation during his term of office. He then installed Dr. Barton as President. Following Dr. Barton's remarks, Dr. Felix read

the names of the Committee Chairmen and Councillors who were retiring from office. The Secretary reported the actions of the Council from its meeting on May 11 and these were approved by the membership upon motion from the floor.

The Adolf Meyer Lecture was presented by Dr. John Bowlby, Corresponding Fellow, of London, England on "Childhood Mourning and Its Implications for Psychiatry." Two papers on communication presented by invitation were well-received: "Communication Amongst Automata" by Heinz Von Foerster, Ph.D., Professor of Electrical Engineering at the University of Illinois, and "Animal Communication" by Hubert W. Frings, Ph.D., Professor of Zoology at Pennsylvania State University.

The Assembly met on May 8-9 with representatives of 51 of 53 District Branches in attendance. Their Officers for 1961-1962 are Dr. Edward Billings, Speaker; Dr. G. Wilse Robinson, Jr., Speaker-Elect; Dr. Lester Shapiro, Recorder; and Dr. John R. Saunders, Past-Speaker. Area Members of the Policy Committee are Northeast (I), Dr. Robert Garber, Member, and Dr. Benjamin Wiesel, Alternate; New York (II), Dr. William Holt, Member, and Dr. Duncan Whitehead, Alternate; Southern (III), Dr. Hamilton Ford, Member, and Dr. Frederick Woodson, Alternate; Midwest (IV), Dr. Philip Reed, Member, and Dr. Ewing Crawfis, Alternate; Western (V), Dr. G. Creswell Burnes, Member, and Dr. Barnard L. Diamond, Alternate. Dr. Walter H. Obenauf will again serve as Parliamentarian for the Assembly.

The annual luncheon of the Modern Founders was held on Wednesday, May 10, in the Clark Room of the Morrison Hotel with Dr. and Mrs. Francis J. Gerty acting as hosts. Approximately 60 members and guests were in attendance including 5 new Modern Founders who were welcomed into the group.

In addition to the events mentioned above, there were numerous meetings, luncheons, reunions and parties all of which helped make this Annual Meeting such an eminent success. It was altogether fitting for a scientific and social meeting of this significance to climax the activities of the Association during the past year under the

guidance of our immediate Past-President, Dr. Robert Felix. And as Dr. Felix noted at the final Business Session, special recognition should be given to the Officers, the Committee members and the staff for their invaluable service throughout the year. However, on this occasion it seems appropriate to commend the work of the several Committees and staff members

whose collaborative efforts were instrumental in the success of this Annual Meeting : Mr. Austin M. Davies, the Executive Assistant ; Dr. Mathew Ross, Medical Director ; Messrs. Robinson and Turgeon of the Central Office ; and particularly the Committees on Arrangements and Program.

C. H. Hardin Branch, M.D.,
Secretary.

WHEN IS A DOCTOR NOT A DOCTOR ?

From the A.M.A. news of the recent past we quote with permission the story of an East German physician who had taken refuge in West Germany. When questioned as to his feelings about deserting his patients in East Germany he said :

"The question comes to my mind : Was I still a doctor before I decided to leave ? Is anyone still a doctor who cannot really heal people because he lacks the right facilities and is supposed to feed his patients political slogans instead of medicines ? Is a doctor still a doctor if the state and party reduce him to a mere state functionary ; if he is

asked to work as a party propagandist ; if he is ordered to declare sick people fit to work against his better knowledge, if he is given insufficient means to heal and to help and if he is hemmed in on all sides ?

"Can he sleep with a clear conscience, can he still call himself a doctor if, against his conscience, he is compelled to carry out orders given him by the government, even though he knows these orders are not in the best interests of the sick, but only in the interests of the state and the party ?"

And this refugee doctor concluded "that I really was not a doctor any longer."

THE EDITORIAL BOARD

Owing to the resignation of Dr. John C. Whitehorn, professor emeritus of psychiatry, Johns Hopkins University School of Medicine, a new name appears among the associate editors this month. Dr. Whitehorn had given a long period of valuable service to the Editorial Board, aiding by his counsel in the shaping of policy, and making important and often quoted contributions to the pages of the *Journal* ; we shall feel assured in seeking his counsel in the future as in the past as occasion may arise.

At the meeting of the Editorial Board, May 9, it was unanimously voted to present to Council the name of Dr. Lorne D. Proctor, head of the department of neurology and psychiatry, the Henry Ford Hospital, Detroit, to fill the vacancy. At the meeting of Council, May 11, this was done and by vote without debate the appointment was

duly recorded. Dr. Proctor is a diplomate of the Royal College of Physicians of Canada as well as of the American Board of Psychiatry and Neurology. He is a member of the American Academy of Neurology and of the venerable College of Physicians of Philadelphia. For some years he collaborated with Sir Frederick Banting as research associate, and during his 10 years service with the Henry Ford Hospital one of his most significant achievements was the organizing in 1957 of the International Symposium on the Reticular Formation. He collected and edited the proceedings of the Symposium which were published in book form in 1958.

We feel that Dr. Proctor's membership will notably strengthen the Editorial Board and we welcome him to this fellowship.

CORRESPONDENCE

TREATMENT OF CARDIAC ARREST

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR: The article, "Cardiac Arrest and Electroshock Therapy," by Genevieve A. Arneson, M.D., and Tarver Butler, M.D., which appeared in the May 1961 issue of *The American Journal of Psychiatry*, was of great interest to me.

Last year I had a patient who developed cardiac arrest. The arrest, however, developed following the administration of intravenous Evipal with Succinyl. The patient was administered 300 mg. of Evipal, intravenously, over a one-minute period. This was followed by 60 mg. Succinyl, intravenously. As is usual with this procedure, positive pressure oxygen was immediately instituted. Despite the oxygenation, the patient developed cyanosis. His pulse could not be elicited nor could heart sounds be detected by stethoscope. A diagnosis of cardiac arrest was made by two physicians who were present. From our Reiter, Model CW-47, electric shock apparatus, one electrode was placed posterior to the heart and the other electrode over the precordium. $\frac{1}{2}$ second shock of 50 milliamperage, 110-volt current, was administered three times

over a period of five to ten seconds. Almost immediately the cyanosis began to clear. The pulse was now discernible and soon became full and strong. The heart sounds returned. No shock treatment, in the ordinary sense, was administered. Within five minutes the patient was awake and talking. His blood pressure was now within normal limits. Electrocardiogram revealed no abnormalities.

It is believed that the cardiac arrest occurred because of sensitivity to the Evipal. I believe that the use of the ordinary electric shock apparatus in restoring his heartbeat was life-saving. Psychiatrists who encounter the complication of cardiac arrest in the future might find it worthwhile to consider that they have at hand a very potent instrument for stimulating the heart. Further thought might be given to this method of cardiac resuscitation.

I believe this procedure might be useful in restoring the heartbeat where the arrest has occurred from electric shock treatment, surgery or other causes.

Corbett H. Thigpen, M.D.,
Augusta, Ga.

PHILOSOPHY TOMORROW

Philosophy still has a work to do. It may gain a role for itself by turning to consideration of why it is that man is now so alienated from man. It may turn to the projection of large generous hypotheses which, if used as plans of action, will give intellectual direction to men in search of ways to make the world more one of worth and significance, more homelike, in fact. There is no phase of life, educational, economic, political, religious, in which inquiry may not aid in bringing to birth that world which Matthew Arnold rightly said was as yet unborn. Present-day philosophy cannot desire a better work than to engage in the act of midwifery that was assigned to it by Socrates twenty-five hundred years ago.

—JOHN DEWEY
(Problems of Men)

NEWS AND NOTES

DEPARTMENT OF PSYCHIATRY AT THE UNIVERSITY OF VERMONT COLLEGE OF MEDICINE.—The office of the Dean has announced the establishment of a department of psychiatry. Previously, psychiatry has been a division of the department of medicine. Chairman of the newly created department is Dr. Thomas J. Boag, assistant to the Director of the Allan Memorial Institute of Psychiatry and an Assistant Professor at McGill University. Dr. Boag, a native of Liverpool, England, received his medical degree from the University of Liverpool.

He will take up his new duties at the University of Vermont College of Medicine on July 1 as a full-time Professor and Chairman of the Department of Psychiatry.

NATIONAL COUNCIL ON CRIME AND DELINQUENCY.—The national Research and Information Center on Crime and Delinquency of the National Council has been established as a clearing house for current research and projects to control crime and to prevent juvenile delinquency. The Center is supported by grants from the Rockefeller Brothers Fund and the National Institute for Mental Health of the Department of Health, Education, and Welfare. It is located at 44 E. 23rd St., New York 10, N. Y.

It will collect and disseminate information not only on research, but also on all programs in institutions and services, experiments, developments and demonstrations. Dr. Hyman H. Frankel is Director of the Center.

THE PHILADELPHIA PSYCHIATRIC HOSPITAL.—The appointment of Dr. Philip Mechanick as Medical Director of the Philadelphia Psychiatric Hospital has been announced by Mr. Abe Cooper, President of the Hospital.

Dr. Mechanick, a diplomate in psychiatry has been associated with the Hospital since 1955. He has served as Clinical Director and Acting Medical Director. He is a graduate of the University of California Medical

School in San Francisco and received his psychiatric residency training at Langley Porter Clinic, San Francisco.

LOS ANGELES SOCIETY OF NEUROLOGY AND PSYCHIATRY.—At the annual meeting of the Society, January 18, 1961, the following officers were elected: President, Nicholas A. Bercel, M.D.; President-Elect, Robert P. Sedgwick, M.D.; Secretary-Treasurer, Robert N. Baker, M.D.

Councilors: John D. French, M.D., Augustus S. Rose, M.D., G. Creswell Burns, M.D., Carlo P. DeAntonio, M.D., John R. Peters, M.D.

FOUNDATIONS' FUND FOR RESEARCH IN PSYCHIATRY.—The Foundations' Fund announces the award of four grants of \$250,000 each toward the endowment of four permanent research positions in departments of psychiatry. Awards have been made to the psychiatry departments of the following universities: University of Chicago School of Medicine, Columbia University College of Physicians and Surgeons, University of Utah College of Medicine, and Yale University School of Medicine. Each of these medical schools will appoint a research psychiatrist to the newly created position on their faculty.

These awards were made possible by a 1956 grant from the Ford Foundation to the Foundations' Fund for Research in Psychiatry for the support of the training of psychiatric investigators in the mental health fields.

Max M. Levin, Ph.D., 251 Edwards St., New Haven 11, Conn. is executive officer of the Fund, and F. C. Redlich, M.D., professor of psychiatry, Yale University School of Medicine is chairman of the Board of Directors.

MCLEAN HOSPITAL'S 150TH ANNIVERSARY.—On May 15 and 16, 1961 a two-day symposium, "A Multidisciplinary Research Program in a Mental Hospital," was held at historic McLean Hospital to commemorate

the 150th anniversary of the incorporation of McLean and Massachusetts General Hospitals.

On May 15 the new additions to the research laboratory were dedicated, and a neurobiological program was presented. Dr. Jordi Folch-Pi, professor of neurochemistry, Harvard Medical School and director of research, at McLean, was in charge.

The May 16 session, under the direction of Dr. Alfred H. Stanton, associate professor of psychiatry, Harvard Medical School and psychiatrist in chief, McLean Hospital, was devoted to behavioral and clinical studies.

Eminent speakers, beside those from McLean and Massachusetts General Hospitals and Harvard University staffs, came from the Universities of Colorado, Michigan, Johns Hopkins, Yale, New York and Columbia, the Rockefeller Institute, the Judge Baker Guidance Clinic, Mass. Institute of Technology and N. Y. State Psychiatric Institute.

AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY, INC.—The following physicians are reported as having been certified in the sub-specialty of Child Psychiatry in March, 1961:

Milford E. Barnes, Jr., M.D., Des Moines, Iowa.
H. Robert Blank, M.D., White Plains, N. Y.
Richard Leos Jenkins, A.B., M.D., Iowa City, Iowa.
Reynold A. Jensen, M.D., Minneapolis, Minn.
Paul Hartley Jordan, Flint, Mich.
C. Raymond Kiefer, Jr., M.D., Hartford, Conn.
Margaret Schoenberger Mahler, M.D., New York, N. Y.
Samuel Rosmarin, M.D., White Plains, N. Y.
Earle Saxe, M.D., New York, N. Y.
Louis A. Schwartz, M.D., Detroit, Mich.
Lenore M. Sportsman, M.D., Albany, N. Y.
Florence Lillian Swanson, M.D., Montclair, N. J.

AMERICAN ACADEMY OF ARTS AND SCIENCES.—In 1961, as in the preceding two

years, the Academy will offer three prizes of \$1,000 each to the authors of especially meritorious unpublished monographs, one each in the fields of: 1. Humanities; 2. Social Sciences; and 3. Physical and Biological Sciences. The final date in 1961 for receipt of manuscripts by the committee on awards is Oct. 2.

Full details concerning these prizes may be secured on request by sending a stamped self-addressed envelope to the Committee on Monograph Prizes, American Academy of Arts and Sciences, Little Hall 33, Harvard University, Cambridge 38, Mass.

RORSCHACH.—The fifth International Congress is to be held Aug. 5-9, 1961, in the University of Freiburg in Breisgau, Germany. Professor R. Heiss is President of the Congress.

The principal papers to be read are by S. J. Beck, Chicago, R. Kuhn, Münsterringen, Switzerland, and a third contributor, to be announced, from Italy.

In addition the following special areas are to be explored:

1. Theoretic and empiric foundations of Rorschach technic;
2. Application in the fields of medicine, development, and social psychology;
3. Rorschach technic in relation to other psychological procedures;
4. Modifications and new developments;
5. Problems of international agreement on signs and evaluations.

Headquarters of the Congress are at the Institut für Psychologie und Charakterologie, Peterstr.1.(Peterhof), Freiburg inn Breisgau, Germany.

TO BEGIN WITH

You learn to consume your own smoke. The atmosphere is darkened by the murmurings and whisperings of men and women over the non-essentials, the trifles that were inevitably incident to the hurly-burly of the day's routine.

—OSLER

BOOK REVIEWS

COMMANDANT OF AUSCHWITZ; THE AUTOBIOGRAPHY OF RUDOLF HOESS. Trans. by *Constantine FitzGibbon*. (Cleveland and New York: The World Publishing Co., 1959, pp. 279. \$4.50.)

The autobiography of Rudolf Hoess, who organized and personally observed the gassing of two million Jews in the German extermination camp in Auschwitz, is an invaluable document for everybody concerned with the mysteries of the human "mind." We are indebted to the Polish physician responsible for Hoess's care in the prison who encouraged him to put his memoirs on paper while he was awaiting his execution.

The reader may not find answers to all questions that may come to his mind, but the book may lead to a clearer formulation of questions about the interplay of motivations responsible for such a phenomenon as Rudolf Hoess.

Except for a short psychotic depressive episode while in jail after World War I, a "Gansers Syndrome," there is no evidence in Hoess's autobiography that he was suffering from an unusual degree of neurotic or psychotic "psychopathology." His family background and early development are typical for the German middle class of his era. Yet this man acquired a degree of detachment and dissociation from cultural values that the most "autistic" schizophrenics do not easily achieve. It does not seem to have occurred to Hoess that there was anything bad or even unusual in killing millions of people in gas ovens. The only "explanation" he offers is that the Jews were "bad" for the German nation, but he shows no evidence of any particular need for further explanation or rationalization why they were so bad. This indicates a considerable ability for the suppression of questions which anybody with a normal I.Q. could barely avoid asking; an ability which was shared to a greater or lesser extent by the majority of the Germans of the Hitlerian era.

The inside story of Auschwitz and other extermination camps was not kept as secret as Hoess's book claims. This reviewer lived in close vicinity to the Belzec extermination camp and was, as was everybody else living there, exposed for 2 years to the smell of the burning bodies of gassed victims. Also, she heard many descriptions of the happenings from escaped Polish prisoners from Auschwitz and other

camps which were practically identical with Hoess's descriptions.

The German occupational forces in Poland who were not members of the Gestapo deliberately avoided any too thorough knowledge of these unpleasant facts, but why the Western powers' allied broadcasts and press did not give them more space remains a mystery since they were well informed of these by the Polish underground. The German propaganda machine certainly put considerable efforts in informing the whole world of the Russian massacre in Katyn.

The dissociation from accepted cultural values revealed by Hoess and the whole German nation was, however, localized to only certain issues. One of them was: The Jews "had" to be exterminated. The process itself was designed as "humanely" and "atraumatically" as possible. Hoess considered himself a member of a humane culture emphasizing his preference for a bucolic life plowing fields, raising animals, and regretted that his killing job interfered with it. He expressed warmth and sympathy for the harmless gypsies, regretting as sincerely that he had to exterminate them as anybody would regret having to drown a litter of cute little kittens. He seems to have been a good husband and father. For this reviewer one of the most gruesome parts of the book is his describing how much he and his wife enjoyed rearing their children and growing beautiful flowers—right under the smell of burning bodies of the victims whose gassing he personally witnessed through a peephole once or twice a week.

Nowhere in the book does Hoess indicate any basic objection to the extermination of the Jews. His final conclusion was only that it was not very practical because the bad reputation it made for the Germans was possibly more unfavorable for them than the survival of the Jews would have been.

To the end of the book he considers himself not a villain, but rather a victim of adverse circumstances, and at least the second part of his conclusion, that *vae victis* is still the dogma No. 1 of international justice may well be shared by those who followed the trials in Nuremberg, where the executors of Katyn were judging the executors of Auschwitz.

A few interesting omissions in the book suggest, however, that Hoess must not have felt equally comfortable about all of the Fuehrer's extermination ideas. His description of the pre-

war concentration camps mentions only communists, socialists, religious conscientious objectors and asocials as prisoners. The considerable number of German aristocracy imprisoned was not mentioned at all. When this reviewer was also imprisoned and met this group of prisoners, she noticed the Gestapo seemed to have failed to share Hitler's idea that the members of the German aristocracy in the camp were a danger to the nation, despite their uncompromising anti-Nazi attitude. Hoess also fails to mention the large number of Catholic priests who perished in Auschwitz.

The book fails to shed any light on the "reasons" for the Nazi obsession of exterminating the Jews. It had no practical value whatsoever even to rationalize its cruelty. To "explain" it as an extension of "antisemitism" is an oversimplification because tensions between different cultural groups have always existed, but only seldom led to such radical "solutions." Maybe Eichmann can one day answer some of the questions not answered in Hoess's book.

This book is, however, an impressive illustration of the degree to which "reason" can be suppressed by perfectly sane people in our "age of reason," and if the reader is a psychiatrist, he could wonder whether the so-called psychopathologies could not be connected with a failure of suppressive mechanisms, which seem to play an important role in "normal" psychology.

HILDA MUSZYNSKI, M.D.,
Nevada, Mo.

IN DEFENSE OF MOTHERS. 4th Ed. By Leo Kanner, M.D. (Springfield, Ill.: Charles C Thomas, 1958, illus., pp. 167. \$3.50.)

Dr. Kanner wrote this book in 1941. His subtitle is "How to Bring Up Children in Spite of the More Zealous Psychologists." In its several editions it has not been necessary to revise the text. The book is as good today as when it was written 20 years ago, because its guiding theme is not some specialized, highly refined technique with its lists of *dos* and *don'ts*, but rather a regime of disciplined common sense on the parents' part, in the rearing of children.

No one is better qualified than Kanner, the creator of child psychiatry in the United States, to write such a book of instruction, so simple, so elementary and yet so profoundly wise. He writes with a light touch, often jocularly; tells true stories to illustrate parental problems and the obvious but untried way to deal with them. You say to yourself "why didn't I think of that?" Maybe you will next time. Beware, when your child has a tantrum, that you don't

have one too. And don't put too much emphasis on things *verboten*. Do not listen when one of "the more zealous" experts tells you, as one of them once did, that *Alice in Wonderland* is bad for children. The real Alice, who lacked the benefits of that professional knowledge, recalling many years later the effect of Mr. Dodgson's stories on herself and her little sisters, put it quite simply: "we were thoroughly happy and amused at his stories . . . we looked forward to the happy hours in the mathematical tutor's rooms."

From his case records Kanner gives vivid pictures of regrettable scenes of parental mismanagement which he assures us are not "caricatures drawn for literary effect . . . They are ordinary occurrences in thousands of ordinary dwellings . . . yes, even in the homes of psychologists and psychiatrists." These tableaux are presented in such a way that they carry their own indications for treatment. And so often children's complaining habits of all sorts are only a part of the general family picture. The unfortunate thing is that with so many persons, discussion of illness, indisposition, symptoms past or present is so large a part of their conversation at home and abroad. "There are children who are treated from the beginning as if they were their parent's hypochondriacal organs."

Kanner denounces the custom, taken over from doctors and continued by parents and the neighbors, of labeling a child who seems unusual in some undesired way—calling him neurotic or introvert or psychopathic or schizoid—"libeling" he calls it or "swearing at" the unfortunate child. He wants children dealt with as persons not as cases of this or that.

Then there is a chapter on thumb sucking, of which some experts give a sexual interpretation. Kanner is allergic to that view and concludes with the question which he says can't be asked too often, "so what?"

He reaches Hudibrastic heights in the next chapter that bears the caption, The Great God Unconscious, which he abbreviates through the text to G.G.U. He gives in some detail the Kanner version of the G.G.U. with all His (capital H) derivatives, associates and complexes. His final admonition—"If, after what you have read, you want to go on worshipping the Great God Unconscious and His cocksure interpreters, there is nothing to keep you from it. But do not let your children pay the penalty for your own excursions into the realm of fancy."

If Dr. Kanner's little book were available to mothers generally, especially to new mothers, the country could do with fewer child psy-

chiatrists. It should be prescribed reading for both pediatricians and child psychiatrists; and doctors generally would take no harm from consulting it. It is entertaining as well as instructive. Even fathers could profit by exchanging the sport pages now and then for a dip into the *Defense of Mothers*.

It well documents an old German proverb and moreover advises what can be done about the dilemma:

Vater } werden ist nicht schwer;
Mutter }

Vater } sein dagegen sehr.
Mutter }

C. B. F.

THOUGHT REFORM AND THE PSYCHOLOGY OF TOTALISM. By Robert Jay Lifton, M.D. (New York: W. W. Norton and Co. Inc., 1961, pp. 510. \$6.75.)

The sub-title of this book is "A Study of 'Brainwashing' in China." It is a book of horrors.

Dr. Lifton is a research associate in psychiatry and an associate of the Center for East Asian Studies at Harvard University. He served as an Air Force psychiatrist in Japan and Korea, 1952-53, and remained in the Far East to do the investigation described herein. He spent nearly two years in Hong Kong studying persons, both Western civilians and Chinese intellectuals, who had been put through the "Thought reform" machine in China.

The voluminous material accumulated has enabled the author to set forth in detail the psychological (and physical) atrocities committed by the Communist masters of China in purging the minds of their victims of whatever standards of life and thought and behavior they may have had and engrafting in their place the Credo of the Party. And more than the Credo is involved; the individual has to be made over, his sense of personal identity and integrity has to be destroyed and a new Kamerad-personality developed in its place.

The book describes the details of this process. Its climax is the "Confession," exemplified many times in the past, a subversion vastly more drastic than the ordinary religious conversion. If the word *human* means anything because from it the word *humane* is derived, then the psychological torture of this form of brainwashing is the ultimate of the inhuman and the horrible.

The Chinese Communists do not have to hurry, they can take their time and if necessary the "reform" process may consume as many months or years as a thorough psychoanalysis.

It seems at least questionable that from the continuous, concentrated, protracted, destructive pressure brought to bear on the isolated mind of the prisoner complete recovery is ever possible.

The author makes no pretense that he can remain unbiased in his study of this almost incredible psychological torture of the helpless individual; but he nevertheless sets forth as precisely as possible the data collected in his interviews with the victims of Chinese "Thought reform."

At the end of his book Lifton discusses the psychological problem of what he calls "ideological totalism," the potential of which in however small degree is a common human characteristic. Through a confluence of certain conditions which he recites any emotionally-charged ideology may lead in a "totalistic"—Messianic—direction. "And where totalism exists, a religion, a political movement or even a scientific organization becomes little more than an exclusive cult." This kind of totalism may be found in any society and is of course to be guarded against. Its aggressive promulgation is also a variety of brainwashing.

Lifton's book is a detailed textbook of Chinese Communist methods of tearing down the individual personality and engrafting the Party model, with wider reference also to the processes through which a totalitarian society can be molded and leveled to conformity.

C. B. F.

AUFTEILUNG DER ENDOGENEN PSYCHOSEN. (The Classification of Endogenous Psychoses). Second Edition. By Karl Leonhard. (Berlin: Akademie-Verlag, 1959, pp. 539.)

It is customary to consider the manic and "melancholic" diseases in the frame of manic-depressive psychoses. Kleist considers them as two conditions that have an affinity for each other. While the author agrees with Neele that there is a manic-depressive combination that expands in opposite directions, there are also euphoric and depressive states that are separate entities unrelated to each other. The combined diseases are designated as bipolar, the separate ones as monopolar.

The bipolar psychopathologies are more colorful and varied and they sway not only from pole to pole, but even within the limits of the same phase they have various symptom-pictures. However, the monopolar forms re-assume periodically the very same symptomatology, retaining in each phase its circum-

scribed and pure form without any admixture of symptoms of the other phase.

The classical symptomatology of the manic-depressive reactions, as they were first described by Kraepelin, is as follows. In the manic stage there is : a euphoria that passes easily into irritability, heightened self consciousness, flight of ideas, speech compulsiveness and hyperactivity. In the depressive state there is a weariness with life, feelings of inadequacy, thinking difficulty, psychomotor inhibitions, lack of decisiveness, depressive thinking and self-accusations. However, in the bipolar term the basic symptoms may be missing : hyperactivity, flight of ideas and even euphoria may be absent in the manic phase and difficulty of thinking and psychomotor inhibitions may not be present in the depressive phase.

The author also discusses in great detail and with ample clinical observations other forms of mental aberrations under names that are not familiar to American psychiatrists. Thus he presents 4 "cycloid" psychoses : anxiety-happiness, irritation-inhibition, hyperkinesis and akinesis. He also suggests a new classification of schizophrenias : the unsystematic schizophrenias (affect paraphrenia, scizophasia, periodic catatonia) and systematic schizophrenias (the catatonic forms : parakinetic, manic, proskinetik and 2 forms of speech catatonias). The hebephrenias he discusses under 4 forms : the silly, the confused, the shallow and the autistic. Of the paranoid forms of schizophrenia the author describes 6 classes : the hypochondriac, the phonemic, the incoherent, the fantastic, the confabulous and the expansive, besides their various combinations. The final chapter of this provocative work is dedicated to statistics : the ages and sex distributions of the phasic and cycloid psychoses and schizophrenias and the hereditary factors in these conditions.

HIRSCH L. GORDON, M.D.,
Yeshiva University Graduate School.

THE LIFESPAN OF ANIMALS. Ciba Foundation Colloquia on Ageing, Vol. 5. Edited by G. E. W. Wolstenholme and C. M. O'Connor. (Boston : Little, Brown and Co., 1959, pp. 324. \$9.50.)

As stated in the preface, "This volume contains the proceedings of the fifth colloquium on ageing, and also a combined index to this and the previous four volumes." Fourteen papers are presented, the first two dealing with humans and the rest with cattle, horses, rats, birds, fishes and insects. Most of the papers present carefully worked out statistical material, some of which is of a highly technical na-

ture and requires considerable knowledge of statistics to evaluate. Each paper is followed by the discussions which took place at the meeting with sometimes as many as 13 different discussants participating. A great deal of very interesting material is presented in these discussions and one gets a very personal feeling of listening to a number of persons who have spent years in this sort of work and who are acknowledged authorities on the subject. The book can be recommended as having presented in excellent fashion some "basic research relevant to the problems of the Ageing."

K. M. B.

NEUROPSYCHOPHARMACOLOGY — PROCEEDINGS OF THE 1ST INTERNATIONAL CONGRESS OF NEUROPSYCHOPHARMACOLOGY, ROME, 1958. Edited by P. B. Bradley, P. Deniker and C. Radouco-Thomas. (New York : Elsevier Press, 1959, pp. 727. \$27.00.)

This volume comprises all the papers presented at the First International Congress of Neuropsychopharmacology, Rome, 1958.

It is divided into two parts. The first part is devoted to the Symposia and Plenary Sessions, and is of particular interest not only because of the topics covered, but because of the inclusion of the discussions held, which, having been well edited prior to publication, are better organized and more lucid than most. The second part embodies the individual papers presented and discussions are not appended.

The scope of this volume is extensive, ranging from analysis and methods of drug-induced behavioral changes in man and animals, through social aspects of psychopharmacotherapy to clinical papers on treatment, clinical trials and frankly scholastic papers dealing with classification and delimitation of mental disorders.

Of special interest is the paper by Hoff and Arnold of Vienna on methodology of drug-induced mental alterations in humans. Mayer-Gross makes a lasting contribution in his paper regarding evaluation of results of experimental or therapeutic drug administration. His conclusion that more attention should be paid to techniques of observation and recording rather than to the technique of research design echoes what we have frequently observed—that excellent research designs are rendered worthless either by the application to poorly selected samples or by inaccurate compilation and recording.

It is not possible to comment on individual papers, but this reviewer feels that most are of excellent quality and certainly contributory to

better understanding of psychopharmacology. Data not generally available on known and experimental drugs, such as the pharmacology of psilocybin, described by Cerletti, or neurochemistry, like the intriguing description of effect of triptomine derivatives on dog behavior under brain-stem stimulation, presented by Sai-Halasz and Endroczy, are found in this book.

Of primary interest, and most essential for serious researchers in this field, this book contains such varied topics as to render it of marked interest to clinical psychiatrists and to members of associated or collateral professions.

ANTHONY SAINZ, M.D.,
Director, Division of Research,
Marcy State Hospital, N. Y.

SOURCEBOOK IN PSYCHOLOGY. Introduction by James Drever, M.A. (Edinburgh). (New York: Philosophical Library Inc., 1960, pp. 335. \$6.00.)

A collection of readings from prominent authorities dealing with a wide range of topics in the general fields of psychology are here usefully brought together in a single volume.

On the title page particular attention is directed to the Introductory Reading Guide which is written by Professor Drever and titled *The Subject-Matter of Psychology*. It is hardly a reading guide insofar as the contents of the book are concerned, but is rather, in the main, an elementary statement about psychology adapted apparently for the general reader or for junior students. Curiously enough however it goes into theoretical psychopathology and even into psychotherapy and lists also other current treatment methods pertinent to mental illness as such, but hardly relevant to introductory psychology. Moreover a book of this kind requires no reading guide as each contribution is accompanied by a brief introductory note.

There are 31 contributions grouped under three general and somewhat arbitrary headings: 1. *The Study of Behavior*; 2. *The Maturing Mind*; 3. *The Study of Personality*.

Professor Boring of Harvard leads the series with some basic definitions and indicates the influence of behaviorism and Gestalt psychology on subsequent developments. The 30 items that follow are representative statements of eminent and preeminent leaders and innovators

in the field of psychology. Here you will find the conclusions of Germany's great biologist Ernst Haeckel as set forth in his world-famous book *Riddle of the Universe*. Herbert Spencer discusses the behavioristic side of the emotions. Charles Darwin (*The Descent of Man*) introduces animal psychology by showing the similarities of the mental reactions of the human and of other animals, thus disturbing the equilibrium of the rigid ultraists who make man, not the "lower" animals, inheritors of heaven. Freud revives and re-emphasizes the role of the unconscious side of the psyche in accounting for the psychology of errors (the "Clown Prince," the "battle-scared veteran," etc.).

Sir Cyril Burt, educational psychologist, advises on the mental development of children; and Hobart Mowrer, research professor of psychology, University of Illinois, discusses discipline in the training of children.

Here in a lecture before the Society for Psychological Research, Carl Gustav Jung details the psychology of the primitive and still widely held belief in spirits. Norman Cameron, professor of psychiatry at Yale, deals with "behavior psychology," role-taking and communications.

James Drever, many years professor of psychology at Edinburgh and presumably largely responsible for the compilation of this book,¹ deals with the psychological aspects of the penal system as set forth in his presidential address before the section on psychology of the British Association in 1926.

Happily included in the collection is William James' eloquent and oft-quoted chapter on *Habit*.

In the section on personality studies, Sir Cyril Burt discusses individual differences; Watson treats of man's adaptability to his work; Kretschmer sets forth his classification of types based on *Physique and Character*. Among other contributors, Tredgold covers industrial relations; Vernon and Parry, the use and methods of psychological testing.

A useful feature of this work is an appendix in which are given biographical notes, alphabetically arranged, of each of the contributors.

C. B. F.

¹ Professor Drever states that his son who succeeded him in the chair of psychology in the University of Edinburgh prepared the introduction to this book.

THE ESSENTIALS

When I get a little money I buy books; and if any is left I buy food and clothes.

—ERASMUS

IN MEMORIAM

DR. ARTHUR H. RUGGLES

1881-1961

Arthur H. Ruggles has left us, but we are not entirely bereft because our legacy includes a host of fond associations, of examples of devotion to his field, of friendship at its best, of good humor, of sterling integrity, originality and imagination.

Dr. Ruggles was born in Hanover, New Hampshire, January 26, 1881, the youngest of five children, into an atmosphere of learning and devotion to public welfare that contributed clearly to shaping his character. His father, Edward Ruggles, was Professor of Romance Languages at Dartmouth and his maternal grandfather was treasurer of that college. His mother was Charlotte Blaisdell Ruggles. His older brother, a lawyer, became a judge in Jamaica Plains, Mass. His other brother was an engineer. His two sisters married Dartmouth men. One of them, Mrs. Helen R. Hodgkins survives him.

While a student at Dartmouth, from which he graduated in 1902, Arthur Ruggles was a member of the Delta Kappa Epsilon fraternity. Later he was inducted into Phi Beta Kappa. He took part in many extra-curricular activities including the management of the football team. This early pattern of participation in community affairs continued throughout his life. He served as a trustee and gave generously otherwise of himself to his college. In recognition of his leadership in the field of psychiatry he received an honorary Doctorate of Science in 1927 (his 25th reunion) from his alma mater, and also in 1929 from Brown University and in 1948 from Rhode Island State College, now the University of Rhode Island.

In 1906 Dr. Ruggles received his medical degree from Harvard. Prior to this he had already revealed his life interest in psychiatry by spending two of his summers at the Danvers (Massachusetts) State Hospital. He rounded out his medical training as an intern on the staff of the Rhode Island Hos-

pital 1907-09. In 1909 he was invited to join the staff of Butler Hospital in Providence, where except for short periods he served for the rest of his life. This was far from the narrow experience that it might seem, for so well organized was his administration that he was able to assume many other local, state, national and international tasks along with his regular work. However his interest throughout life focused more on the psychodynamics of mental disorder. In 1912-13 he took postgraduate work at the University of Munich under Professor Emil Kraepelin.

During World War I, he was in charge of Base Hospital No. 214 in France with the rank of Major and was psychiatrist to the 2nd Division. He returned to Butler at the end of the war, and in 1922 he was appointed successor to G. Adler Blumer on the latter's retirement from the superintendency of that hospital, serving as such until 1948 when he became Superintendent Emeritus and consultant. For a short period he was on leave from Butler to organize the Mental Hygiene Department at Yale, where he was appointed Professor of Clinical Psychiatry. He taught at Dartmouth College, also at Brown, where he served as Student Mental Health Consultant in 1920. In 1931, without relinquishing his responsibility for Butler Hospital, he planned, organized the construction of and until 1943 administered Bradley Hospital, the last two years as Executive Vice-President. This is a small hospital in Riverside, R. I., founded by Mr. and Mrs. George Bradley for children with neurological and emotional disorders. In 1943 he became president of its Board of Trustees. He was Chairman of the Psychopathic Department of the Charles V. Chapin Hospital and established a Child Guidance Clinic in the local schools in 1916.

Dr. Ruggles served on many local and State Boards, including in later years the Council of Social Agencies and the State

Parole Board. He was on the Advisory Council of the State Department of Social Welfare. He served as president of his local and state medical societies. He served both Florida and Massachusetts at the request of their respective governors by surveying their state institutions. The care with which he performed these tasks resulted in some significant reforms. He was a member of the Board of Deacons of the Congregational Church in Providence and was accorded local honors for his many public services.

Nationally, he served as President of the National Committee for Mental Hygiene and of the 1st International Congress on Mental Hygiene and as a delegate from the United States to the Second International Congress. He served as Secretary and Treasurer 1938-41 and presided over the American Psychiatric Association in 1943¹ after rendering invaluable service in a critical period of its existence. He was one of the founders of the Group for the Advancement of Psychiatry. He served on the Advisory Council on Research of the United States Public Health Service. He represented the APA along with Dr. Edward A. Strecker and Dr. Frederick W. Parsons in World War II in an advisory capacity to government agencies and was called on by Secretary of War Stimson as a consultant. In this capacity he tied together the efforts of the APA and the National Committee for Mental Hygiene.

Dr. Ruggles contributed abundantly to the professional literature. In 1951 he delivered the Thomas W. Salmon Memorial lectures on the subject: The Place and Scope of Psychotherapy.

¹ July 1943 issue of the Journal contains Dr. Ruggles' Presidential Address and photograph.

In 1948 Dr. Ruggles suffered a setback from which he never fully recovered. As a result of a severe respiratory infection he suffered cardiac damage which forced him to carefully budget his activities. For this reason he had to relinquish many of his outside responsibilities that required traveling, but by his wise planning he was able to continue to give great service to his community, and counsel on national matters to those visiting him. He especially regretted his inability to serve actively as Chairman of the Research Committee on Schizophrenia, a program conducted by the Scottish Rite through the National Association for Mental Health. Still so distinctive was his leadership that he was retained in an honorary capacity in this and many other of his associations.

Dr. Ruggles always had a critical scientific conscience behind his clinical work. While he could accept common sense as a matrix for the application of science, he demanded that it be sound. "Mumba-rumba" was his way of characterizing pseudo-scientific work.

Dr. Ruggles' domestic life was prematurely limited by the loss of his wife, *nee* Hazel M. Wheeler, in 1939, whom he had married on April 22, 1914. His devotion to her was revealed often to those who knew him well whenever family functions came up for discussion. To them came two children, Arthur Jr., and Ann.

Those of us who can credit ourselves with being his contemporaries know how much our juniors have missed by not knowing Arthur Ruggles also, however much they have gained from him as a heritage.

George S. Stevenson, M.D.

WILLIAM NOBLE KELLER, M.D.

" 1875-1960

The character and personality of William N. Keller never seemed to fit into any set mould. Yet, his accomplishments well typify the heights attained by leading mental hospital superintendents of the first half of the twentieth century. Throughout his adminis-

trative career he could always be found in the van of the group of medical entrepreneurs who were not psychiatrists but who entered administration from the main stream of medicine to help tear down the walls of isolation of America's mental hospitals. Dr.

Keller's credo was action—direct action, independent action, persistent action—so that he was constantly immersed in turmoil, ferment and excitement with the result that accomplished facts become significant accomplishments. Not only did Dr. Keller have an extraordinary impact on physicians with whom he served, who are largely located in the Pacific Northwest, but also his influence on mental hospital administration spread far from the Western State Hospital he loved.

William N. Keller was born February 26, 1875 at Council Bluffs, Iowa, the son of Samuel L. and Elizabeth Noble Keller. After attending the common schools of Council Bluff he was graduated from Princeton University in 1894. He was graduated from Rush Medical College in 1899 and interned at Cook County Hospital with an emphasis on surgical training under John B. Murphy and Frank Billings. The latter secured Dr. Keller an appointment as Attending Surgeon for the Denver Rio Grande Railroad Hospital at Salida, Colorado where he served from 1900 to 1905. He became Chief Surgeon for the Northern Pacific Hospital in Tacoma, Washington in 1905 and served as Surgeon for the Chicago, Milwaukee and St. Paul Railroad in Tacoma from 1906 until 1914, simultaneously conducting a vigorous private practice of surgery. He was appointed Superintendent of Western State Hospital, Fort Steilacoom, Washington in 1914, resigning in 1922, and resuming surgical practice in Tacoma. During World War I he took a year's leave of absence, serving as a Major in the Medical Corps of the United States Army. He was reappointed to the superintendency of Western State Hospital in 1933 and remained in that post until he retired in 1949 at age 74.

During years of private medical practice Dr. Keller was on the staff of the St. Joseph's Hospital and Tacoma General Hospital and served as Chief of Staff of Pierce County Hospital, all in Tacoma. He was a member of the Pierce County Medical Society, serving one term as President. He was a member of the Washington Society for Mental Hygiene, National Committee for Mental Hygiene (Honorary Member), Fellow of the American Medical Association, a Charter Member and Life Fellow of the North

Pacific Society of Neurology and Psychiatry, Fellow of the American Psychiatric Association, Life Member and Fellow of the American College of Surgeons and a Diplomate of the American Board of Psychiatry and Neurology.

All of Dr. Keller's psychiatric career was spent in command of Western State Hospital, which he viewed as a vital, dynamic institution, with a distinct personality of its own. Having had no cloistered psychiatric training the thought of the hospital being isolated and apart from the community never entered his mind. He developed an extraordinary *esprit de corps* in patients, employees and professional staff, which led to a natural participation in all spheres of community activity. Many of the popular community-hospital innovations of the 1950's were put into effect or advocated by Keller as early as the 1930's.

In early years of private practice Dr. Keller was very active in the social and business life of Tacoma. His contacts were legion. He served on governing boards of banks, corporations and service organizations, as well as actively participating in the real estate development of the area. By the time he became enmeshed with the challenges of hospital administration he had developed diverse and catholic interests. Thus, there was no phase of hospital operations with which he did not become intimately familiar over the years; from clinical psychiatry to farming, from ward management to architecture, from purchasing to personnel. As would be expected, he could not abide the notion that the development of one of the nation's finest dairy herds indicated a disinterest in the welfare of patients and their clinical progress. That some other superintendent was cursed with poor farm land or was incapable of exploiting good land for profit, was considered by Keller a faulty argument that he should avoid usefully integrating farming with other hospital activities.

Perhaps nowhere was Dr. Keller's capacity to get to the bottom of things better demonstrated than in the manner in which he developed Western State Hospital's building program. In the public works days of the 1930's he practically rebuilt the major part of an old Kirkbride hospital plant and

established a master plan which has been followed closely since his retirement. He even succeeded in building a new home for nurses in the middle of World War II. His most spectacular building coup occurred a few years before retirement when he detected loose words in an appropriation title for a new building to cost several million dollars. He used the entire appropriation to build the concrete frame and the roof of a building which ultimately housed 400 patients. In a following session an austerity minded legislature had no alternative but to appropriate several millions in addition to complete the structure. In this way was a dreadful overcrowding of patients relieved.

After a long and vigorous campaign Dr. Keller succeeded in 1948 in building a research institute as an integral part of Western State Hospital. He held the idea that while pure research was important elsewhere, the best help to patients of his hospital would be an integrated operation with most members of the active professional staff engaging in research to some extent.

Partisan political interference in mental hospitals was forever publicly damned by Dr. Keller. He felt that overt manifestations of political activity were to be shunned and that such detracted from the dignity of medicine. Yet, he was always a political realist in respect to the bureaucratic and

governmental strife which constantly pervades mental hospitals. In this sphere he operated with a brilliance seldom seen. He was a determined and courageous adversary who used all his skill and knowledge of human events to advance the welfare of Washington's mentally ill, playing off one pernicious force against another and patiently outwaiting those which could not be met head on.

One trait eternally to Dr. Keller's credit was an inclination to encourage fellow psychiatrists to enter mental hospital administration. In a convivial setting he loved to pass on in an academic manner the lessons of his many years' experience. The things he had to teach don't come in books and mental hospital administration has been advanced greatly by his willingness to share the fruits of his experience and to stimulate the imaginations of his colleagues.

William N. Keller died January 14, 1961 in Tacoma. He is survived by his wife, the former Mabel Lawrence, a son, William, a daughter, Elizabeth and four grandchildren. For the golden years of his professional life there are no more appropriate words than those he had engraved over the entrance to Western State Hospital, "Dedicated to Mental Health."

Charles H. Jones, M.D.

SUCCESS

Let us be thankful for the fools. But for them, the rest of us could not succeed.

—MARK TWAIN

MODERN MAN

The whole prospect and outlook of mankind grew immeasurably larger and the multiplication of ideas also proceeded at an incredible rate. This vast expansion was unhappily not accompanied by any noticeable advance in the stature of man either in his mental faculties or his moral character. His brain got no better ; but it buzzed more.

—CHURCHILL (1915)

THE AETIOLOGY AND TREATMENT OF CHILDREN'S PHOBIAS :

A REVIEW

S. RACHMAN, AND C. G. COSTELLO¹

The past few years have seen the establishment of two conflicting views regarding phobias in children. Most workers in this field, psychiatrists and psychologists, are influenced to a greater or lesser extent by either the psychoanalytic theory or the behavior theory in their approach to the subject of phobias. For this reason we have restricted our review primarily to these two theories.

PSYCHOANALYTIC THEORY

The psychoanalytic theory of phobias derives very largely from Freud's case history of Little Hans(14) which was published in 1909. The essentials of the phobic theory were presented in this paper and appear to have undergone little change in the past 50 years.

The theory states that the basis for phobic disturbances is the Oedipus Complex. The child desires to possess the mother sexually and is jealous and hostile towards the father. The child fears his father because of these hostile wishes and, in particular, dreads castration. The fear of the avenging father is then projected onto some external and formerly innocuous object. The outbreak of the phobia is generally preceded by a period of privation and/or intensified sexual excitement.

This development of phobias may be analysed into the following components.

1. The child "is fixated at the oedipal or pre-oedipal level"(22).

Freud(11) states that psychoanalysis has "often showed that animal (phobic object) was a substitute for the father, a substitute on to which the fear of the father derived from the Oedipus complex has been displaced."

(1a) The child has a sexual desire for the mother.

This aspect of the theory is stressed in

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the case of Little Hans(14). In a discussion on the psychogenesis of agoraphobia in childhood, Abraham(17) illustrates Freud's theory by referring to case material: The phobic child had "an incestuous wish for sexual possession of her (the mother)."

(1b) The child is jealous of, and hostile to, the father.

In the discussions by Abraham mentioned above, he also makes explicit the child's hostility to the father—he had "a death wish against his father."

2. The child fears the father.

Freud(12) states that "the animals which play a part in the animal-phobias of children are generally father-substitutes."

He also says that "the instinctual impulse subjected to repression here (in animal phobias) is a libidinal attitude to the father, coupled with a dread of him. After repression this impulse vanishes out of consciousness"(15).

(2a) The child has castration fears.

The anxiety experienced by the child when he is confronted by the object of his phobia is a danger signal set off by his ego and the danger which is being signalled in this way is invariably the danger of castration(13).

And again, "the fear in zoophobia is castration anxiety on the part of the ego"(13).

3. The fears of the father and of castration are projected onto a neutral external object.

Castration anxiety, states Sarason, *et al.* (26) results in

the displacement or projection of the dangerous combinations upon an external (previously innocuous) object or situation. After this occurs the original castration anxiety is elicited by a different object and therefore is expressed only in a distorted form.

In Freud's words(9) "... castration anxiety is given another object and a distorted expression—namely that of being bitten by a

horse . . . instead of being castrated by the father."

4. The onset of the phobia is often preceded by a period of privation and/or sexual excitement.

"An increase in sexual longing, fear or guilt, reactivates the oedipal or pre-oedipal fear of sexual injury to the mother . . ."
(22).

Freud(14) attaches importance to this precipitant in the Little Hans case as does Bornstein(2) in the case of Lisa.

5. The onset of the phobia is generally preceded by an anxiety attack which is associated with the phobic object.

Freud(13) states that "a phobia generally sets in after a first anxiety attack has been experienced in specific circumstances such as in the street or in a train or in solitude." Similarly, Abraham is quoted as stating that "in general, the phobic reaction to a specific object or situation becomes established only after the child has experienced an anxiety attack while interacting in some way with the particular object or situation"(26). The initial anxiety attack itself however is produced by castration fears. "The phobic process begins when the ego recognizes the danger of castration and consequently gives a signal of anxiety"(26).

6. Phobias only develop in people with disturbed sexual adjustments.

Freud(10) states that, "the main point in the problem of phobias seems to me that *phobias do not occur at all when the vita sexualis is normal*," (original italics).

He says further, "My theory is only to be gainsaid by evidence of phobias occurring together with a normal *vita sexualis*."

Watson and Rayner's(31) laboratory demonstration of the development of a phobia in little Albert (see below) must bring into question 5 of the 6 elements of the psychoanalytic theory as does the evidence discussed in the works of Wolpe(32), Eysenck (7, 8) and Jones(19). Point 5, however, approaches close to the learning theory account of phobias described below. The learning theory position is that the onset of the phobia is not merely preceded by an anxiety attack which is associated with the phobic object but that the anxiety attack

is generally the major cause of the phobia. More generally, Ellis(6) argues that

the vague, suppositional and multi-interpretive terms in which the theoretical framework of orthodox analysis is usually stated make it almost impossible to test its concepts by normal psychological methods of investigation.

And we may add, it also makes it almost impossible to appraise the internal consistency and logic of psychoanalytic theory—as a theory.

Ellis(6) has criticised the unscientific nature of psychoanalysis and emphasizes the inadequacies and confusion of the theory, the unreliability of the supportive evidence, the failure to submit any part of the theory or practice of psychoanalysis to acceptable scientific test. One of Ellis's most insistent complaints is against the rampant speculation so common in psychoanalysis. As we hope to demonstrate below, one of Ellis's comments on a passage of Freud's writings seems in fact to be applicable to a large body of psychoanalytic literature. He remarks that, "the ratio of speculative statements to empirically adduced facts . . . is slightly overpowering."

PSYCHOANALYTIC EVIDENCE

Clinical evidence serves a double purpose in psychoanalysis. It is used in order to construct the theory and also to support the theory. Some serious deficiencies present in psychoanalytic case material have been discussed in a critical examination of Freud's treatment of the famous Little Hans case (33). Although the criticisms which we offer here may all be applied equally well to the Little Hans case, we have restricted our comments to other well-known case histories in order to emphasise that these flaws are the rule rather than the exception.

ELABORATION

Bornstein(2) presents an account of a girl of 2 yrs. 4 mths. who developed a phobia of lying down. At one point, Bornstein writes, "She was asked directly what she really had to fear in bed. She replied with a recital of misdeeds having the character of severe self-reproach." The following is an example of what the child said, "See

cup ow." Bornstein states that this means ("translated into the language of the adult") "See the cup is broken, has pain (ow) and it is my fault." We suggest that this is an elaboration, particularly the claim that the child felt at fault.

Later we read that the child used to masturbate by rubbing her legs together. Then, the mother reported, she stuck diapers or table napkins between her legs. Bornstein comments, "As if wishing to demonstrate that her genitalia were not 'Ow,' not damaged, that in other words she possessed a male genitalia."

A more extensive elaboration is given in an account of one of the child's dreams. The child reported the dream thus; "Opa dudu." Bornstein gives as a direct literal translation "Grandpa naughty naughty," but writes also that it "meant that her grandfather had appeared to her in a dream and had either threatened or spanked her." Later the dream was apparently better understood and Bornstein writes, "The little girl's favourite game before she was sick had been the 'Kuckuck game.' This consisted in hiding and then calling 'Kuckuck' which the child who still spoke very imperfectly often used to pronounce 'Duduck' or really almost 'Dudu.' The dream therefore said 'Grandfather is hiding, has gone away.'"

Further elaborations are given in connection with two incidents. (a) The grandfather on one occasion when out with the child had gone behind a tree and urinated. (b) The grandfather had taken the child's mother away for a short period in order to look after the sick grandmother. "Opa Dudu" finally means "If I am not good mother will be taken away by grandfather." But over and above this, it also expressed the wish that "her grandfather would play Dudu again—that is disappear and expose his penis." We suggest that this also reveals a tendency towards over-elaboration.

SUGGESTION

Schnurmann(27) gives an account of a girl, Sandy, who developed a dog phobia at the age of 2 yrs. 5 mths. At that time (1944) she was in the Hamstead Nursery. One night she had a nightmare: "She told the nurse a dog was in her bed." Schnurmann comments later that,

As Sandy had up to then not shown any special interest in dogs it seems strange that in the dream the dog was invested with great significance. An explanation may be found in the following facts: "When the nursery children were taken out in a group an encounter with a dog was usually met by some kind of emotion on the part of the other children. The fear of dogs at night continued for the next three nights. Statements like "Out, out, out, doggie coming" were made. On the fourth night, "Sandy undertook a thorough inspection of her genitals. She was deeply absorbed in this activity and did not take any notice of our presence (two therapists). The worker told her that everything was all right there and that all girls looked like that.

The next day, "On the way to the nursery some of our children started to play with a strange dog. I explained to them that he might bite if they frightened him." It is noteworthy that it was only from this time that the child showed signs of fear of dogs in the street. The main point, however, is that it was only after the worker had drawn the child's special attention to her genitals and after the worker had suggested that the dog might bite, that Sandy herself began to talk about biting. Two nights later Sandy said to the worker, "Bite Annie Bite."

"I asked 'Where bite?' She lifted her nightie pointed to her genitals and said, 'There bite.'"

There was a considerable amount of talk about biting for the remainder of the therapy which enabled the therapist to conclude that, "In the nightmare—as it became clear in Sandy's subsequent behaviour and remarks—a dog was assaulting Sandy in her bed, injuring her genitals, i.e., biting off her penis."

It is also noteworthy that after Sandy's attention had been drawn to the 'rightness' of her genitals she became quite concerned about the rest of her body and clothes—fingers, legs, coat, hat. They all became penis symbols by displacement apparently.

It is felt that, after having given the child the idea that genitals are all right (or all wrong) and also warning her that dogs bite, to regard her subsequent concern with these ideas as confirming the analysis is unsatisfactory and not convincing.

INVERSIONS AND NON-ACCEPTANCE

A common feature of psychoanalytic case reports is the refusal to accept the patient's accounts and to attach instead a reversed meaning to his testimony. The tendency is clearly illustrated in the case of Frankie, aged 4½, reported by Bornstein(3). For example, the boy reported a dream in which he, the room and two other persons were falling down. Bornstein comments, "Actually, the emphasis on 'going down' was a representation of its opposite being lifted up."

We feel then the psychoanalytic theory of phobias is inadequate for the following reasons: 1. The theory is complex and loosely formulated. 2. The evidence is not related clearly to the theory by means of predictions from the theory. 3. The evidence is manipulated through over-elaboration and inversion to fit into the theory and sometimes the patient himself is manipulated by suggestion so that his behavior may fit into the theory.

We will now proceed to an account of an alternative theory—Behavior Theory—which has been presented to account for the development and treatment of phobias.

A BEHAVIOR THEORY OF PHOBIA

The past decade has seen the growth of a new theory of neurotic behavior which has been developed from learning theory. Expositions of the general theory are provided by Wolpe(32) Eysenck(7, 8), Jones(19).

The position adopted by this theory is that neurotic behavior is acquired. The process of acquisition implied in the theory is derived from Hull's system.

Wolpe(32) defines neurotic behavior as "any persistent habit of unadaptive behavior acquired by learning in a physiologically normal organism." Anxiety is "usually the central constituent of this behavior, being invariably present in the causal situations."

In similar vein, Eysenck(7) postulates that, "neurotic symptoms are *learned patterns of behavior* which for some reason or another are *unadaptive*," (original italics). Neurotic behavior patterns persist paradoxically, because they are unpleasant. Having acquired an unpleasant association and re-

action to a particular stimulus or situation, the person will tend to avoid exposure to these noxious circumstances. As learned patterns of behavior can only be extinguished by repeated unreinforced evocations, the tendency to avoid the noxious situation often precludes the possibility of a spontaneous disappearance of the neurotic behavior. Furthermore, if the person does come into contact with the noxious stimulus he generally responds by withdrawing. This withdrawal is followed by a reduction in anxiety and will reinforce the avoidance behavior mentioned above. This then is what Eysenck(7) refers to as "the vicious circle which protects the conditioned fear response from extinction."

As is the case in all learned responses, neurotic reactions are subject to stimulus generalization. That is, a range of stimuli similar to the original noxious stimulus may also evoke the neurotic reaction.

It should be noted also that neurotic symptoms may under certain circumstances result "not from the learning of an unadaptive response, but from the failure to learn an adaptive response"(19). An instance of this type is enuresis nocturna.

The experimental evidence which supports the behavior theory of neurosis is discussed in Wolpe(32), Eysenck(7, 8), Jones(19).

In terms of the behavior theory, *phobias* may be regarded as conditioned anxiety (fear) reactions.

Any neutral stimulus, simple or complex, that happens to make an impact on an individual at about the time that a fear reaction is evoked acquires the ability to evoke fear subsequently. If the fear at the original conditioning situation is of high intensity or if the conditioning is repeated a good many times the conditioned fear will show the persistence that is characteristic of *neurotic* fear; and there will be generalization of fear reactions to stimuli resembling the conditioned stimulus(33).

The experimental evidence supporting this view of phobias is discussed in Wolpe(32) and Wolpe and Rachman(33) and is derived from studies of the behavior of children and of animals. The classical demonstration of the development of a phobia in a child was provided by Watson and Rayner

(31) in 1920. Having first ascertained that it was a neutral object, the authors presented an 11-month-old boy, Albert, with a white rat to play with. Whenever he reached for the animal the experimenters made a loud noise behind him. After only 5 trials Albert began showing signs of fear in the presence of the white rat. This fear then generalized to similar stimuli such as furry objects, cotton wool, white rabbits. The phobic reactions were still present when Albert was tested 4 months later.

The process involved in this demonstration provides a striking illustration of the manner in which phobias develop and may be represented in this way :

1. Neutral Stimulus (rat) → Approach R
2. Painful noise stimulus (UCS) → Fear (UCR)
3. Rat (CS) + noise (UCS) → Fear
4. Rat (CS) → Fear (CR)
5. Rabbit (CS¹) → Fear (GCR)
6. Cotton Wool (CS²) → Fear (GCR)

The essentials of the theory may be summarized in 6 statements.

1. Phobias are learned responses.
2. Phobic stimuli, simple or complex, develop when they are associated temporally and spatially with a fear producing state of affairs.
3. Neutral stimuli which are of relevance in the fear-producing situation and/or make an impact on the person in the situation, are more likely to develop phobic qualities than weak or irrelevant stimuli.
4. Repetition of the association between the fear situation and the new phobic stimuli will strengthen the phobia.
5. Associations between high intensity fear situations and neutral stimuli are more likely to produce phobic reactions.
6. Generalization from the original phobic stimulus to stimuli of a similar nature will occur.

Each of these 6 statements is based on experimental evidence and would also appear to be consistent with clinical experience(32, 8). All are supported by Wolpe's experiments(32) and evidence for specific statements is provided by Liddell(25), Jones(19), Watson and Rayner(31), Eysenck(8) and Gantt(16) among others.

It can be legitimately argued in fact that these propositions are supported by the full weight of almost all the evidence accumulated in research on the learning process.

BEHAVIOR THERAPY

The essence of Behavior Therapy is clearly deducible from the theory. If neurotic behavior is acquired (learned) it should be amenable to 'un-learning' in a manner similar to that whereby non-neurotic acquired behavior is extinguished. The two major decremental processes in learning are inhibition and extinction. Numerous therapeutic procedures based on these processes have already been developed(32, 8) and additional techniques are now under investigation. The indications are that these methods are successful in a variety of neurotic disturbances(7, 8, 32), but a definitive conclusion must be postponed until a properly designed and controlled experimental test has been conducted. Such an investigation admittedly poses serious and difficult practical problems but on theoretical grounds, behavior therapy is eminently suited for such an investigation. The hypotheses and procedures are clearly defined and manipulable and a satisfactory study can be expected to provide a relatively unambiguous answer.

Most of the case-reports available to date which deal with the treatment of children's phobias involve the use of Wolpe's 'inhibitory therapy.' He defines the principle of reciprocal inhibition psychotherapy :

If a response antagonistic to anxiety can be made to occur in the presence of anxiety-evoking stimuli so that it is accompanied by a complete or partial suppression of the anxiety responses, the bond between these stimuli and the anxiety responses will be weakened(32).

The method may be illustrated by referring to some actual case reports which we summarize briefly here.

A 3-year-old boy, Peter, evinced fear of white rats, rabbits, fur, cotton wool and other stimuli along this continuum. He was treated by Jones(21) using de-conditioning methods. It was decided to work on the rabbit phobia as this seemed to be a focus of Peter's fears.

Peter was gradually introduced to contacts with a rabbit during his daily play period. He was placed in a play group with 3 fearless children and the rabbit was brought into the room for short periods each day. Peter's toleration of the rabbit was gradually improved. The progressive steps observed in the process included: "rabbit in cage 12 feet away tolerated . . . in cage 4 feet away tolerated . . . close by in cage tolerated . . . free in room tolerated . . . eventually, fondling rabbit affectionately." Another measure employed by Jones involved the use of feeding responses. "Through the presence of the pleasant stimulus (food) whenever the rabbit was shown, the fear was eliminated gradually in favor of a positive response."

Using these techniques Jones overcame not only Peter's fear of rabbits but all the associated fears. The follow-up of this case showed no resurgence of the phobia.

Lazarus and Rachman(24) describe the treatment of a 14-year-old boy who had suffered from a fear of hospitals and ambulances for 4 years. The phobia had developed after the prolonged illness and suffering experienced by his mother. She had been taken from the house several times by ambulance and spent over a year in hospitals.

The boy was first trained to relax. Hierarchies of disturbing situations concerning ambulances and hospitals were then constructed, ranging from mildly upsetting to extremely upsetting items. The lowest item in the ambulance hierarchy for example, was a mental image of a derelict ambulance in a scrap-yard and the highest item an image of sitting beside the driver in a moving ambulance. The therapist then slowly worked up the hierarchies desensitizing each item by relaxation responses. After 10 interviews, the boy was much improved and was able to visit a hospital. Four months later he was still quite well.

The third case, reported by Lazarus(23), deals with an 8-year-old boy who developed a fear of moving vehicles 2 years after having been involved in a motor accident. Initially the therapist rewarded the boy whenever he made a positive comment concerning vehicles, by giving him a piece of his favorite chocolate. By the third interview the boy was able to talk freely about all types of moving vehicles. Next a series of "accidents" with toy motor cars was demonstrated. The boy, John, was given chocolate after each accident. Later John was seated in a stationary vehicle and slow progress (with chocolate feeding reinforcements used at

each point) was made until John was able to enjoy motor travel without any anxiety.

Lazarus also describes the successful treatment of a case of separation anxiety and a case of dog-phobia. Case reports describing the treatment of phobias in adults are provided in Eysenck(8).

REINTERPRETATION OF PSYCHOANALYTIC CASES

A further advantage of behavior theory is that it can account for and incorporate a good deal of evidence presented by psychoanalysts. We will illustrate this with several examples from the literature.

A number of psychoanalysts when discussing school phobia have stressed the importance of getting the child back to school early. Eisenberg(5) writes, "In general, the longer the period of absence from school before therapeutic intervention is attempted the more difficult treatment becomes." In explanation he writes, "Left at home the patient . . . is reinforced to persist in infantile manoeuvring by the 'success' of his efforts." This point has also been stressed by the workers at the Judge Baker Guidance Center(4, 18, 29, 30). No attempt is made, however, to incorporate this important aspect of therapy in the psychoanalytic theory. This therapeutic procedure is in a sense even contradictory to the theory insofar as it is symptom-oriented. This failure to account for important data by means of the theory can be added to the list of deficiencies above.

The importance of the early return to school can be accounted for by the behavior theory of phobias in the following manner:

As learned responses (including fear) can only be abolished by extinction or inhibition, no reduction of the school phobia can be expected to occur if the person is entirely isolated from the noxious situation. Furthermore, continued absence from school will certainly reinforce the phobic pattern. It will have this effect because of the reduction in school-anxiety which is produced when the person refrains from attending school. Like all learned behavior, phobic responses are strengthened by drive reduction, in this case, reduction of the anxiety drive.

Another aspect of therapy for school phobias has been stressed by some psychoanalytic writers. Klein(22) writes :

The child is told he must go to school every day, but does not have to stay there and does not have to attend the classroom. The child can stay in an office, assist the office staff, read or draw and can leave at any time.

This graded approach is another aspect of therapy not in keeping with the general psychoanalytic approach and not accounted for by the theory. It is on the other hand a procedure which directly follows from the behavior theory of phobias.

Though the psychoanalytic case histories referred to in this paper are long and complex, most of the data presented are taken from the analytic sessions and the phobic situation itself is seldom described adequately. For this reason it is not possible to give precise accounts in terms of behavior theory of the development and treatment of the probias reported. But one or two general observations can be made.

We referred earlier in this paper to Bornstein's case of the girl who developed a phobia of lying down(2). From the point of view of behavior theory the following points are of importance. "Training in cleanliness was begun in the sixth month. The child was held over the pot at regular hours." Towards the end of the first year, the child's grandmother took over the toilet training and apparently imposed severe measures. After the age of one year the child wet herself on very few occasions. One of these occasions was the day before her mother's return from an illness, when she wet herself several times. "The members of the household thought it probable that when this happened they said to her 'Wait until your mother hears you have wet yourself again! She won't love you any more. She will go away again and won't want to come back.'"

Bornstein comments,

We believe that she could not allow herself to lie down because she was afraid that when lying down or sleeping she would be unable to control the wish to defecate in bed . . . Moreover we know of an historical factor which had connected the motif 'incontinence' with the

motif 'not sitting' : *After her illness with diarrhoea the child could no longer sit up.*

(original italics). Bornstein is referring here to the fact that when the child was 7-months-old she had an attack of diarrhoea which left her so weak that she could no longer sit alone.

From the point of view of behavior theory the development of the phobia can be accounted for in the following way : Because of her severe toilet training the stimulus to urinate or defecate had become associated with anxiety. The association of defecation with lying down (at the time of her illness) resulted in the act of lying down also producing the anxiety response. The child then attempted to avoid anxiety by sitting up all the time.

Concerning the child's recovery from the phobia, the following observation is noteworthy :

The child on one occasion refused to resume even a sitting position in bed. As was usual she was left. She soiled herself, the bed was changed and the girl asked her mother to give her a hug which she was given. Then to the mother's astonishment the girl happily lay down in bed for the first time in five weeks.

It would seem unlikely that this one association of soiling with an accepting and affectionate response was sufficient to produce a recovery. Although we are not informed whether, after this "astonishing" result, the mother altered her attitude and behavior to her child we will assume that she used this experience in her future handling of the girl. If she continued to use affection and re-assurance to dampen the child's anxiety, such a procedure would almost certainly have brought about a reduction of the phobia.

In the case of Sandy's dog phobia(27) and Frankie's elevator phobia(3) we do not have sufficient information to give a convincing account of the development of the phobia. But we have already seen that in both cases the phobic objects were associated with fear producing stimuli. In the case of Sandy, we have the nightmare involving a dog and the therapist's warning that dogs bite. But one may be justified in asking why the child had a nightmare involving a dog

in the first place. In the case of Frankie we have the nurse's threats that she would call the elevator man to teach him not to disturb people.

Regarding Sandy's and Frankie's recovery from their phobias we again do not have sufficient information. But it is of interest that Sandy frequently encountered dogs when out walking with the therapist which would at least present an opportunity for the extinction of the fear response. Secondly Schnurmann writes that on one occasion Sandy played quite happily with a doll's pram, "I asked her whom she had covered with the blankets. She produced a dog. I said 'A doggie.' Sandy replied, 'No pussy cat.'" It is possible that further play with the toy dog would have produced some desensitization. Finally Sandy had played dogs with other children and the therapist and it is of interest that the phobia ended in the following way: "When on the way to the nursery school we met a dog who was on a lead. Sandy at first made a withdrawing movement, then she approached the dog hesitatingly. When another dog came into sight, Sandy walked directly towards him and barked." Sandy responded in other words in a manner learned while playing at being dogs.

CONCLUSIONS

Mention has been made of Mary Cover Jones's (20, 21) classic studies in which she describes her attempt to develop techniques for eliminating children's fears. The significance of this early work is only now becoming recognized. She gives an account of several methods of treatment. Four of these appear to be promising, practical and in accord with present-day learning theory. They are the methods of:

1. Direct conditioning.
2. Social imitation.
3. Systematic distraction and
4. Feeding responses.

The fruitfulness of the behavior theory approach to phobias is well demonstrated if we add to Jones' list the additional new methods which have been, or could be used in overcoming children's phobias.²

5. Systematic desensitization (Wolpe)

6. Assertive responses (Wolpe)
7. Relaxation responses (Wolpe)
8. "Pleasant" responses in the life situation—with drug enhancement (Wolpe)

In a suggestive article by Jersild and Holmes (17) further possible methods for treatment of children's fears are discussed. From their survey of parent's experiences in dealing with children's fears, Jersild and Holmes suggest these techniques (among others): Prompting the child to acquire skills which will enable him to cope with the feared situation; progressive contact with, and participation in, the feared situation; verbal explanation and reassurance; practical demonstration of fearlessness.

Some of these techniques are already employed by prevailing therapies without receiving explicit acknowledgement.

All these methods certainly provide therapists with a formidable armamentarium to begin with. What is now required is careful, thorough investigation of these methods and above all a major project to establish the degree and permanence of improvements which may be obtained by these techniques.

In the meantime, active therapists may consider conducting their own investigations of these methods when faced with children suffering from phobic conditions. Obviously the choice of the method will depend to a considerable extent on the nature of the phobia. It is worth remembering also that these methods are not mutually exclusive and it is probable that in many cases a combination of these techniques may offer the most promising approach.

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² Naturally, many of these methods are equally applicable to the treatment of adults' phobias.

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A RE-EXAMINATION OF THE PHOBIC SYMPTOM AND OF SYMBOLISM IN PSYCHOPATHOLOGY

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In spite of some important exceptions (9, 10, 14, 15), the study of phobias has been neglected recently. And yet if a symptom should be the representative of psychiatric disorders no other one could be better selected. In fact phobia or fear may appropriately represent one of the most common states of man, who in spite of, or rather, because of, his advancement and understanding, has become so aware of the precariousness of his condition as to transform danger from something to be prevented to something to be always concerned with.

The reasons why phobias have been relatively neglected in the literature are two: first; whereas phobias were seen as constituting a syndrome in themselves (called phobic state or anxiety hysteria), recently they are more frequently recognized just as symptoms of a total psychoneurotic clinical picture (and much less frequently psychotic). For the last two decades the emphasis has been on studying total syndromes rather than isolated symptoms. The second reason is the fact that after Freud's classic interpretation of phobias (8), no important diverging or supplementary hypotheses have been advanced.

Although the present writer agrees that the study of the total syndrome is more important than the study of the individual symptoms, he feels that a reexamination or reassessment of established conceptions is from time to time warranted.

THE PSYCHOLOGICAL STRUCTURE OF PHOBIAS

Freud's interpretation of phobia consists in seeing this symptom as a displacement (8). For instance, little Hans is actually afraid of his father, but in his neurosis the fear is displaced to horses. According to Freud the displacement hides a sexual threat and thus becomes symbolic of what it replaces. For instance, fear of being bitten by a horse replaces fear of castration by the hands of father.

According to the present writer, the displacement is not necessarily from one object (father) to another (horse). More than a displacement a concretization takes place. The patient may be in fearful expectancy of vague, intangible threats, which may be difficult to define or which he does not want to define or recognize: hostility from father, possibility of abandonment by mother, atmosphere of hate and resentment in the household, *etc.*

In several phobic patients the psychiatrist may easily recognize the concretization of a more general anxiety situation: fear of sexual relations hides a bigger fear in sustaining loving relationships; fear to travel hides a bigger fear of making excursions into life; fear of many little things generally hides a general state of insecurity. Odier (15), in a certain way understood this phenomenon when he wrote that "Behind the phobogenic object hides a concept, an idea, a vague intuition."

In the writer's opinion what happens in phobias is the expression of a general principle of psychopathology, *viz.*: that which cannot be sustained at an abstract level because it is too anxiety provoking, or for other reasons, is concretized. This concretization of concepts and idea-feelings is not merely the expression of a reduction to a concrete level, as Goldstein (11, 12) has described especially in organic cases, but an active process of concretization, that is, an active changing of the abstract into the concrete. For instance, before the onset of a psychosis a patient has the vague impression or feeling that the whole world is hostile toward him. After the onset of the psychosis the vague feeling becomes transformed into a concrete delusion: "They are against him" (3). Concretization reaches the point of perceptualization in hallucinations (1). For example, before the psychotic outbreak the patient had a self-effacing attitude, a pervading feeling of inadequacy and unworthiness. After the onset of the psychosis he hears voices accusing him of being a failure, a homosexual, a spy, *etc.*; that is,

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at a perceptual level he hears expressions of his own undesirability.

Phobias share with many other psychiatric symptoms the phenomenon of concretization. However, they have characteristics of their own, which have to be re-examined and reinterpreted for a more complete understanding of the phenomenon. These characteristics appear more evident if contrasted with those of delusions :

1. Whereas in delusions the threatening objects are other human beings (the persecutors), in phobias there is a dehumanization of the source of fear. For instance, bridges, cars, high buildings are frequently the phobogenic "objects." Characteristic enough is the fact that animals (horses, dogs, cats, insects) are often the phobogenic objects, but not human animals. Some human beings such as dentists, policemen, monks, may become phobogenic not because they are human but because of their role or the uniform they wear. In other words, the phobogenic object is either their role or their uniform.

2. Although the phobic patient attributes great power to the phobogenic object, he concentrates his attention on himself, that is, on the effect of the fear on himself. Whereas the deluded patient is mostly concerned with the bad qualities of the persecutor, the phobic is mostly concerned with the disturbance he will undergo if he is exposed to the danger.

3. The phobic patient retains some possibility of action within the framework of his symptomatology : he may escape the danger by avoiding the phobogenic object. In other words, it is up to him to avoid the fear-provoking situation. He is not a passive or helpless agent of persecutors, as the deluded patient.

4. Contrary to the deluded patient the phobic retains the capacity to test reality. He understands that his fear is absurd and not syntonized with the rest of his psychological functions. As a matter of fact a great part of his conflict consists in his being obligated to react in a way that he himself considers absurd.

Can these characteristics of phobias be interrelated and explained ? An attempt will be made toward a pathogenetic interrelation of the various aspects of the symptom,

but an etiological interpretation is beyond the purposes of this paper.

The fundamental mechanism in phobias is introjection, not projection. In other words, the phobogenic object is not perceived as an entity in itself but as a disturber of the organism. As I have described more extensively in other works(5), a primitive form of perception consists in experiencing the external object only as a disturber of the organism. The perception does not mirror reality. It is an inner status of disequilibrium that the external stimulus produces. What counts is the alteration of the inner status of the organism more than the mirroring of the external object(4). In phobias this primitive type of perception occurs. The phobogenic object is introjected as a disturber of the organism, not *per se*. Obviously an unrealistic quality is *projected* to the phobogenic object, but the introjection of the alleged emotional disturbance is the main characteristic and reaches exaggerated proportions.

In all forms of altered introjections or of increased emotional disturbance (for instance in depressions) appreciation of external reality is not distorted or only to a minimal degree : only the inner status is. The phobic patient retains a grasp on external reality : on the other hand the deluded patient does not. The latter does not introject pathologically ; he projects pathologically. Pathologic projection requires a transformation in cognition ; the focus is on the cognitive functions not only of the patient, but also of the external world. But the only cognitive powers in the external world are other human beings. In phobias no cognition of other people is taken into account. The phobogenic object is not considered as a malevolent being who plots the destruction of the patient ; it is seen only as a disturbing agent, not as a willed object.

It may be useful at this point to use Buber's terminology(6). In the phobic patient there is an I-It relationship between the patient and the phobogenic source ; an I-Thou relationship in the paranoid. In both cases the relationship is distorted, and seen by the patient as a one-way relationship, that is from the external object to the patient and not from the patient to the external object. As I had occasion to discuss

elsewhere(2), the pathological I-Thou relationship of the deluded is a more primitive one than the I-It pathologic relationship.

Human beings do not have merely an I-Thou relationship, but also an I-It relationship; that is, a relationship between the person and the non-human world. Many neurotic persons who have difficulties in interpersonal relations try to change the I-Thou relationship into an I-It relationship. They try to treat people as things; they depersonalize them. For instance, people become machines, sexual relations only a biological function, human relations become scientific experiments, and so on. Even the therapist becomes a therapeutic machine which renders a service. In the phobic patient the I-It relationship becomes accentuated. As I have described elsewhere (2), in the deluded patient this neurotic mechanism is absent. The patient cannot translate the personal into the impersonal. As a matter of fact one sees the opposite process: the impersonal tends to be personalized. Whatever of significance happens is never attributed to chance or to physical events (or to that particular chance which is bad luck). Almost everything is anthropomorphized and seen as a consequence of a personal will. One could object that in phobias too there is a certain kind of animism inasmuch as a special power is attributed to special situations and to inanimate things. Furthermore, animals, that is animated entities, are often phobogenic objects. This is true, but to a much more limited extent than in the psychotic patient. In phobias the phobogenic object acquires a special power only as a disturber of the organism, not as a plotting agent. Only human beings can be plotting agents.

The fact that the phobogenic object is an "It" permits the patient to retain a certain active role, that of mobilizing his defenses. In this respect the phobic differs from the psychotic and is similar to other psychoneurotic patients. The phobic defends himself with avoidance (of the danger); the hysteric with bodily impairment (so that he will not be able to face danger), the compulsive with a ritual (which, like magic, will protect him from danger).

SYMBOLIZATION

The study of phobias may help us to re-examine the general problem of symbolism in psychopathology, as phobias stand out among the most typical examples.

Since the beginning of the psychoanalytic era psychopathological symbolism has been intensely studied, but has not yet been correlated with the general symbolic process of the human mind, with which neurologists as well as philosophers and semanticists have been concerned. In this paper only the salient features of the general symbolic process will be reviewed in order to show later how they differ in pathological symbolism.

As Cassirer(7), Langer(13), and others have mentioned, a symbol is something which stands for something else. A most primitive type of symbol is the signal, which is a clue for something else which, however, is implied or present, although not obviously so. For instance, a certain rash is, for the physician, the signal of measles in the child, a certain odor is for the cat the signal that a mouse is around.

A real symbol, however, is something that stands or may stand for something which is absent. For instance, the name John may stand for John when John is absent. Language is a community of symbols. At first a symbol may stand for an external object: for example, the word "mother" stands for the child's mother, in the child's mind, but eventually for every mother. That is, the word will not denote only one object, one mother, but will refer to the whole category of females who beget children. Furthermore the symbol mother is not only communicated to others, but shared with others. That is, all who hear it know the denoting or conceptual meaning of the word "mother."

With the evolution of culture, symbols are created which stand for higher and higher categories. For instance, numbers are symbols which may stand for anything (the symbol 3 may stand for three apples, three books, three men, etc.). Algebraic symbols may stand for every number. Higher symbols are obtained by abstracting parts from lower classes. The new symbol will represent the new class formed by all the members possessing that abstracted part. For

instance, from the symbol "animal" we may abstract the symbol "animal with vertebral column," constituting thus the class of vertebrates. From "vertebrate" we may abstract "mammals" which are those vertebrates which nourish their young with maternal milk, and so on. The members of the higher class acquire some qualities without losing the qualities of the lower class.

The above remarks are insufficient to encompass the complex phenomenon of symbolism but perhaps sufficient to throw some light on the differences between normal and pathological symbolization.

Let us take again as a paradigm the case of Freud's patient, little Hans :

1. The horse as a phobogenic object, at a conscious level is not a symbol, but a signal. In other words, it must be present in order to evoke fear. It is true that the memory of the horse may be frightening to Hans, but this case is already a complication of the situation : the memory is a symbol of the signal "horse."

2. The phobogenic situation is a very concrete situation, and cannot be abstracted from its actuality.

3. The horse as a phobogenic agent is not a symbol which can be shared with others. Hans can communicate his fear to others, but the fear will not be shared by others.

4. Fear of the horse replaces at a conscious level many other fears, which are still present, although not acknowledged. Fear of interpersonal relations may coexist with the fear of the horse, although the patient concentrates on the horse and not on the interpersonal relations.

5. With the development of the illness, a phobia, like the fear of horses, may stand for an increasing number of events and interpersonal situations which evoke fear or anxiety. Larger classes of anxiety or fear-provoking situations or objects can be constructed, but these classes cannot be abstracted from lower ones, as the class of mammals was abstracted from the class of vertebrates. The larger classes do not retain the properties of the smaller classes. Finally we can see that only one element is common to these phobogenic classes : the phobogenic quality. They are thus very arbitrary classes, non-Aristotelian and abnormal classes.

6. This common phobogenic quality, on which the abnormal class is built, at the level of consciousness is not shared by the members of the class. As a matter of fact the patient represses more or less the phobogenic qualities of all the members of the class, except the one which appears in the symptom. In other words, the patient becomes unaware of his anxiety about interpersonal relations, and becomes aware only of the fear of horses. Thus the abnormal class exists only in a state of unconsciousness.

It is important to distinguish these two categories of symbols, which the human mind is capable of conceiving. To confuse them is not only poor semantics ; it means to remain oblivious to the two arrows of human symbolism : the arrow directed toward higher constructs and that directed toward lower constructs. Whereas the normal symbol acquires the property of entities which are not only absent but in some cases even impossible to see or confirm, like the infinite decimal and the imaginary numbers, the pathological symbol (called by me paleosymbol)(1) tends to *reduce to one property* the many characteristics of arbitrary classes. It is not leading to higher constructs and is not interpersonal. Its only constructive use consists in being a pathological defense for the patient, who without this symptom would be even more incapable of coping with more general anxiety-provoking situations.

SUMMARY

Phobias are seen as expression of the general psychopathologic phenomenon of concretization. The fears are concrete representations of more abstract anxiety-provoking situations and relationships.

Phobias have certain characteristics, like dehumanization of the phobogenic object, alteration of the emotional status, retention of active role and of reality test, which can be correlated.

Symbolism in psychopathology presents some characteristics, like concentration on signals and formation of arbitrary classes, which differ from those of normal symbolism.

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THE CHAIN OF CHRONICITY¹

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Considering its importance in mental hospital psychiatry, there has been very little study of the process of becoming chronic. Most authors who place patients into the categories "newly admitted" and "chronic" make no attempt to show when and how a new patient becomes chronic. The scope of the problem can be seen in the fact that 80% of the patients in public mental hospitals are considered chronic by the criterion of having been hospitalized two years or more(1, 2). Malzburg(5), Brown(1), and Johnson(7) have all emphasized that this two-year mark represents a turning point in the patient's hospital career, for after this his chances for discharge are very slim. A solution to the problem of the chronic patient would be of immense practical value to hospital administrators since each chronic patient is likely to occupy a bed for 20, 30, or even 40 years. It would not be simply a matter of reducing the average length of stay for newly admitted patients from 12 months to 10 months, but rather of eliminating a life sentence given to perhaps one in 20 newly-admitted patients. In England a prisoner handed a life sentence can expect to serve about 8 years. He is far luckier in this respect than a few of the admission ward patients who are transferred to a continued treatment ward.

Chronicity can be viewed as a sequence of connected events, each of which must occur before the patient becomes chronic. This suggests that chronicity can be reduced or eliminated if any link in the chain is broken. In Figure I, the left-hand column represents the chain of chronicity. Some examples should illustrate the way in which occurrence of any one of these right-hand alternatives can keep a patient from becoming chronic. If his peculiar behavior were never noticed by family or friends, then he would not be defined as mentally

ill. However, if other people noticed his peculiar behavior but were willing to tolerate it, he would not be moved to the fourth link, referral to a psychiatric clinic. Even at this point he could still be treated on an outpatient basis. Finally, if all patients admitted to mental hospitals remained on the admission wards and were discharged after a brief time, we would be creating no new chronic hospital patients. The only chronic patients would be the residue from previous cohorts, or, in the words of Morgan and Johnson(7), "the psychiatric failures from previous generations of entering patients."

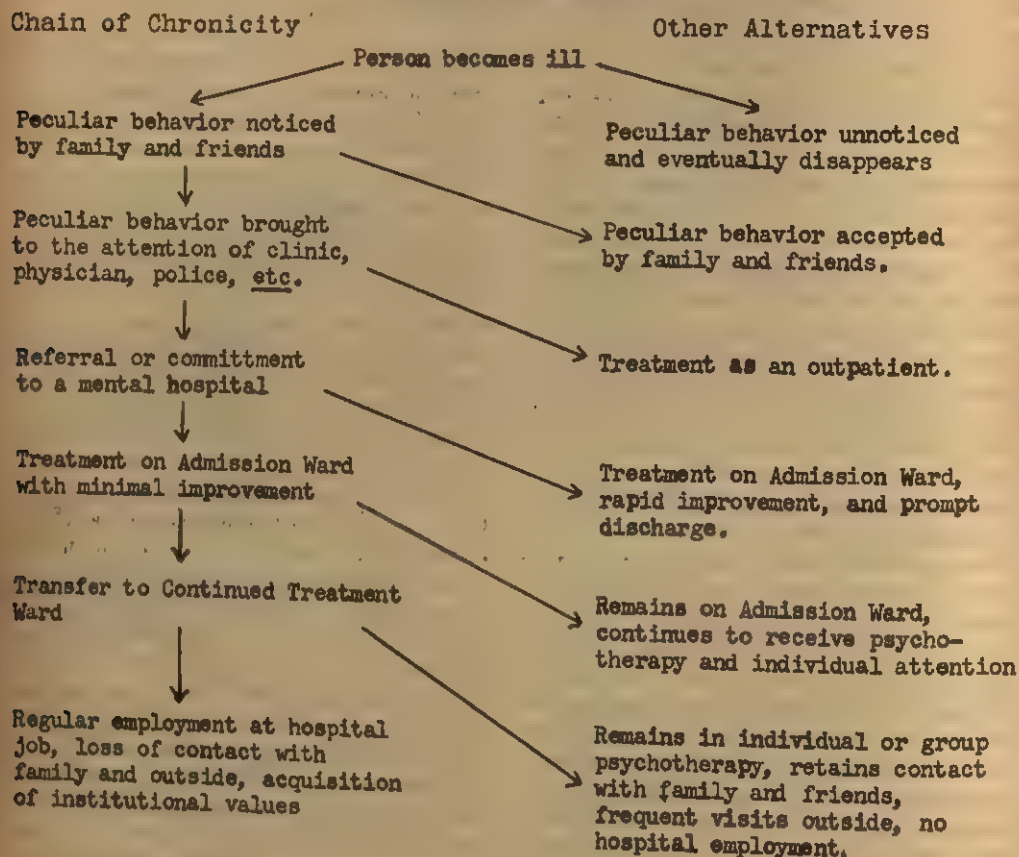
Community psychiatrists have concentrated on the beginning links of the chain, especially the early recognition of mental illness and its prompt treatment on an outpatient basis. The mental hygiene movement has been active in emphasizing such things as the need for guidance counselors in schools and psychiatric training for clergymen. There are also many new and not so new alternatives to committal to a mental hospital, and here can be included the day hospital, night hospital, psychiatric wing in the general hospital, *etc.* All these approaches aim to eliminate chronicity by breaking the beginning links. Psychiatrists and social scientists employed in mental hospitals are working at the other end of the chain. They are coping with such problems as the maintenance of the patient's contact with his family, the preservation of his social values and skills, *etc.* In our own research at this hospital we have found that the longer a patient remains, the fewer visits and letters he receives, the less he is in touch with developments on the outside, and the more his values differ from those of people in the community(8, 9, 10). Passivity, dependence, and a blind acceptance of authority are just a few of the symptoms of prolonged care in what Goffman(3) calls "the total institutions." As mental hospital psychiatrists and administrators have found, it requires a lot of determined effort and research to counteract the effects of this dis-

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FIGURE 1

The Process of Becoming Chronic



culturation. Resocialization aims at getting withdrawn and regressed patients to participate in activities. Reacculturation introduces the patient to the values and attitudes of the world outside; education and vocational training can teach the patient skills that will allow him to compete effectively on the labor market; family and community ties can be re-established by urging families to visit more frequently. These measures all aim to break the end links of the chain, the total institutionalization of the patient.

There has been very little investigation of the fifth link of the chain, transfer from the admission ward to continued treatment ward. Hospital psychiatrists and social scientists have been so busy remotivating and reacculturating chronic patients and applying new therapies to admission ward

patients that transfer from the admission ward to a continued treatment ward has been a relatively neglected process. Perhaps one reason for this is the guilt engendered whenever a patient "fails" his course on the admission ward and must be transferred.

Transfer from the admission ward has more than symbolic significance to staff and patients. Steiner(12), in one of the few studies of inter-ward transfer, found that patients had fairly clear ideas as to which wards were better and worse than other wards, and that when a patient was transferred to a ward that he defined as "better," his hospital adjustment tended to improve, while if he were transferred to a ward that he regarded as "worse" than his previous ward, his hospital adjustment deteriorated. It is also true that staff on the admission ward expect that patients will go

home in a few months, while continued treatment ward staff expect that patients will remain in hospital at least for the next few months. Nurses usually remain on the admission ward longer than patients, while patients on the continued treatment wards usually have longer tenure than the nurses. Furthermore, there are objective and easily observed differences between the admission wards and continued treatment wards. These have been documented in studies at a large number of hospitals, including this one. Compared with admission wards, continued treatment wards have :

1. Lower discharge rate.
2. Less turnover among the patient population.
3. Fewer visits from relatives and friends.
4. Fewer letters both to and from patients.
5. Less contact between patients and psychiatrists or social workers.
6. Emphasis on group rather than individual activities.
7. More patients holding full and part-time hospital jobs.
8. Different kinds of patients. Apart from the geriatric ward, almost all patients on the continued wards are schizophrenic. On the admission ward where there are a large number of alcoholics, manic-depressives, and neurotics, the schizophrenic patients are in a minority.
9. Fewer friendships between patients. This has been shown by numerous studies of friendship patterns at this and other hospitals(14).
10. Less favorable staff-patient ratios and usually poorer physical surroundings. Continued treatment wards usually contain more patients and are more crowded than admission wards, and the patients are more poorly dressed.

All these factors indicate that transfer is much more than a symbolic or administrative act. It not only marks the patient as a "failure," in many cases it insures that he becomes one. Merton(6) terms this kind of situation a "self fulfilling prophecy." This can include rejection of the patient by the staff coupled with guilt at their inability to help him, and loss of hope by the patient accompanied by acceptance of a passive institutional role.

In this paper we shall be concerned with the type of patient who is transferred from admission wards to continued treatment wards, the reasons for transfer listed in the patient's file, the reasons for transfer explained to the patient by the staff, and the patient's interpretation of the transfer.

METHOD

Interviews were held with all those patients who had been transferred to two continued treatment wards during the past two years. These two wards, one male and one female, receive most of the transfers from the admission wards in this 1500-bed mental hospital except for older and physically infirm patients. Excluding those unable to be interviewed, away on leave, *etc.*, 46 patients were interviewed. From the hospital files we found each patient's age, diagnosis, length of stay on the admission ward prior to transfer, number of previous admissions, and reason for transfer. Interviews took place on the patient's ward and concerned his views toward his transfer. Each patient was asked the following questions :

1. Did you know why you were transferred from the admission ward to this ward ?
2. Were you told beforehand that you were going to be transferred ?
3. Who told you ?
4. Were you told the reason for your transfer ?
5. What did this transfer of wards mean to you ?

A few of the patients were unwilling or unable to answer some of the items, so the total number of responses does not always reach 46. Generally speaking, the patients were cooperative and willing to discuss their transfers. However, since in some cases transfer had occurred a year or more before the interview, their opinions were rather hazy. .

RESULTS

Diagnostically, the patients who were transferred were a fairly homogeneous group with more than 85% having a diagnosis of schizophrenia. About half of these were of the simple undifferentiated variety, although there were quite a few paranoids

included. Most of the patients were in their late twenties or early thirties, but this was largely due to the particular wards we studied since all older or physically infirm patients were transferred elsewhere. The preponderance of young adults underlines the seriousness of the problem of the chronic patient. These individuals have life expectancies of 30 or 40 additional years and if they are allowed to become chronic, they can occupy a hospital bed that could serve perhaps 60 short-stay patients.

The next question was how long these patients spent on the admission ward before being transferred. This is essentially an administrative matter and is supposed to depend upon the condition of each individual patient. The first difference is between those patients who return from parole, boarding-out program, or were transferred from other institutions. These patients are all admitted to the admission ward where, in theory at least, they can stay as long as any other patient. Yet, these 8 patients remained on the admission ward an average of only 3 days compared with 54 days for patients who were admitted directly from the community. There is also a slight relationship between length of stay on the admission ward and number of previous admissions. Excluding those who returned from parole or boarding-out, patients with no previous admissions averaged 76 days on the admission ward, patients with one previous admission averaged 55 days, while patients with two or more admissions averaged 44 days.

According to the hospital files, the major reason for transfer to a continued treatment

ward was that the admission ward had proven too disturbing to the patient and that he would benefit from a more stable environment. Other major reasons were that there was nothing more to offer a patient on the admission ward and that he would probably require long hospitalization. Overcrowding on the admission ward was listed as the reason in only one transfer note. In some cases there were specific recommendations for a treatment regime on the continued treatment ward. Four patients were recommended for group therapy, while two patients were recommended as "ward helpers."

The patients had very different interpretations of the reason for transfer. Fully half did not know why they were transferred, and the next largest group believed that the reason was overcrowding on the admission ward. A comparison between the reasons for transfer given in the patient's hospital file with the patient's account of the reason for his transfer is presented in Table I.

Half the patients stated that they had not been informed in advance about transfer, while 8 others said that they were informed only on the day of transfer. This compares with 13 patients who stated that they had been informed about the transfer and 6 who could not remember whether they had been informed or not. The person most likely to have told the patient was the supervisor, while a ward nurse was mentioned next most frequently. Only 4 patients reported being told about the transfer by their doctor. The meaning of the transfer varied from patient to patient. Some appreciated the comparative calm and quiet of

TABLE I
Reason for Transfer According to Patient and Hospital File

REASON FOR TRANSFER	ACCORDING TO:	
	HOSPITAL FILE	PATIENT'S ACCOUNT
Too Stressful on Admission Ward	15	1
Nothing More to Offer on Admission Ward	9	1
Will Probably Require Long Hospitalization	9	2
Previously on Continued Treatment Ward	7	2
Will Benefit from Group Therapy	4	4
Will Benefit from Helping Patients on Continued Treatment Ward	2	1
Overcrowded on Admission Ward	1	10
Requested Transfer	0	2
Miscellaneous	0	5
No Reason Given	7	16

the continued treatment ward, while others missed the activity and stimulation of the admission ward. The majority accepted transfer as another manifestation of the mysterious nature of administrative practice. For example, when asked how he felt about the move, one patient replied, "I didn't really know what to think about the transfer so I did just as the nurses said. I didn't want to start arguing because they seemed to know what's best for a person." Another stated, "I thought it was an order as far as I was concerned. We haven't the right to vote in here, have we? And if we haven't the right to vote, they can't have much concern for our opinions. Maybe some of them got together and decided." Another patient replied, "I don't understand the hospital well enough for it to have much meaning." A patient who preferred the admission ward stated, "I don't like this ward, I wanted to stay on the admission ward because it has better functions. I think they are on a higher scale there. I like the admission ward better because they have the dining room right on the ward and they are not so crowded. This ward is overcrowded." On the other hand, a patient who preferred the continued treatment ward stated, "Transfer means that I have more freedom in going outside. The patients are more incorporated here than on the admission ward." (More incorporated?) "No one bothers nobody." (Do you like this?) "Yes." Others objected to the transfer simply because they preferred to continue in a situation they found comfortable. "I don't like to change, to move around. Stay here—stay there. It's no good to move around. I don't like it. I'd rather stay in one place." Another said, "The transfer didn't mean very much to me. It's almost the same here as over there, but I would rather have stayed over there, I had got used to it."

We also felt that it would be useful to supplement our interviews with an analysis of the social-psychological characteristics of 50 patients who were transferred from the admission ward and 50 patients who were discharged or paroled from the hospital. We followed the hospital career of those patients who were on the admission wards during November, 1959 and noted whether the patient had been transferred to a long-

stay ward or discharged. We then compared the social psychological characteristics of 50 patients who had been discharged with 50 who had been transferred. In both cases the samples constituted the first 50 patients on the list.

From a standpoint of diagnosis, patients who were classified as simple, undifferentiated, or catatonic schizophrenics were more likely to be transferred than paranoid schizophrenics. In fact twice as many simple, undifferentiated or catatonic schizophrenics were transferred as paranoid schizophrenics, while twice as many paranoid schizophrenics were discharged as any other kind of schizophrenic.

It also turned out that, generally speaking, patients who were transferred spent less time on the admission ward than patients who were eventually discharged. There were many exceptions to this of course, but the median length of stay for those patients who were transferred was 64 days while the median length of time on the admission ward by patients who were eventually discharged was 80 days. If a shorter time period is used, the difference is even more intriguing. Within the first 30 days of a patient's stay in hospital, only 4 patients were discharged but 14 were transferred. The differences are not large since there is a tremendous range of time spent on the admission ward but they are sufficient to cast doubt on the idea that a patient is only transferred after all hope of discharge is abandoned. Adherence of this view would maintain that patients are kept on the admission ward as long as possible and only transferred when the prospects for discharge become slight. This view is incorrect since a majority of those patients who were transferred never even remained on the admission ward as long as the median time required for discharge.

In terms of marital status, the data show that a majority of patients who were discharged were married, while the majority of those who were transferred were single. This difference is significant at the .05 level by Chi square Test and supports a similar finding by Morgan and Johnson(7). The data also show that three-quarters of the men in the sample were single, while three-quarters of the women in the sample were

married. This sex difference does not vitiate the preceding difference between transferred and discharged patients, since there was an equal number of men and women in each group.

There was no difference in age between patients who were discharged and those who were transferred. The only suggestive item was that of the 11 patients over 60 in the sample, 9 were transferred and only 2 were discharged.

There was also a trend for the length of time that a patient spent on the admission ward before transfer to vary inversely with his number of previous admissions. That is, the more previous admissions a patient had to a mental hospital, the less time he spent on the admission ward before he was transferred to a long-stay ward. However the trend is much less clear with this sample, although patients with no previous admissions or one previous admission remained on the admission ward twice as long as patients with 4 or more previous admissions.

DISCUSSION

Our previous research into the relationship between length of hospitalization and letter-writing, social attitudes and skills has been more concerned with the effects of chronicity than with its causes. However, it is apparent that spending a specific number of years in a total institution does not automatically produce disculturation since there are such people as Nathan Leopold and the Birdman of Alcatraz who spent more than 30 years behind bars without losing their former social values. There are also the well-documented cases of prisoners-of-war who successfully resisted intensive "brainwashing" campaigns. Persons of this sort who are able to avoid being desocialized or discultured even under extreme conditions do not require much analysis except from the standpoint of individual psychology. It is the vast majority of inmates who are either unable or unwilling to resist succumbing to the prison culture or the mores of the hospital staff who can reap the most benefit from administrative remedies to chronicity.

On a more practical level, many of the transfer notes in the patient's file contained recommendations for specific modes of

treatment. For example, there was a suggestion that one patient become a ward helper, while another should be given a job in the sewing room. It is difficult to say to what extent these recommendations were put into force when the patient arrived on his new ward. We have some evidence from other work that the hospital files are not used very often, especially on the long-stay wards. It seems important that continuity of treatment be maintained throughout the patient's entire hospital career. For the patients in the present study, this was probably more easily achieved on the male continued treatment ward where the patient had the same doctor as he did on the admission ward than on the female continued treatment ward where the patient changed doctors when she changed wards. This, of course, was an administrative matter and a function of the number of psychiatrists available at the time. Yet it does illustrate the need for continuity of treatment, not only upon entering hospital and after discharge but also within the hospital structure.

Even if measures are taken to reduce the number of chronic patients, there will still be chronic *schizophrenics* living in the community. The similarity between the terms is unfortunate since these are really two different problems. A chronic schizophrenic is a mentally ill person whose illness and behavior have reached a stable level, while the chronic patient is a person unable to manage outside of an institution. Many chronic schizophrenics are able to live marginal existences outside of hospital, especially in rural areas or if they have relatives willing to care for them. They may never become hospital *patients*. An especially good example of this was the paranoid schizophrenic described by Trevelyan (13) who lived for 80 years as a hermit. The chronic *patient*, on the other hand, may no longer possess the illness that originally brought him into hospital. His difficulty may be that he lacks the funds or skills to maintain an independent existence (e.g., an indigent older person or a low-grade mental defective) or simply that he has no other place to go. The relevance of the preceding discussion to the problem of the chronic schizophrenic is that he is very likely to

become a chronic patient if he ever enters hospital. We have often observed how older patients, even those admitted for the first time, who are given the diagnosis of chronic schizophrenia are rapidly transferred from the admission ward. Instances of this sort help explain the tremendous differences in the length of time that various patients spend on the admission ward before transfer. One patient in our sample spent 554 days on the admission ward before transfer, compared with 28 days spent by another patient. Although chronically ill persons will still be admitted to mental hospitals and psychiatric clinics, it is important to keep them from becoming chronic patients.

SUMMARY

The goal of the study was to learn something of the process by which a newly-admitted patient becomes chronic. Interviews were held with 46 patients who had been transferred from the admission ward to a long-stay ward. Each patient was asked whether he knew the reasons for transfer, the person who told him, and what the transfer meant to him. The ward files of these patients were also examined to learn the official reason for the patient's transfer. Finally a comparison was made of the social-psychological characteristics of 50 patients who had been discharged from the admission ward and 50 patients who had been transferred to long-stay wards. It was found that most of the patients who were transferred rather than discharged were simple, catatonic, or undifferentiated schizophrenics. Patients who were transferred also tended to be unmarried and on the average

spent less time on the admission ward than patients who were eventually discharged. The implications of these findings for the prevention of chronicity among mental patients were discussed.

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ECOLOGICAL FACTORS IN HUMAN MALADAPTATION

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I.

The aim of this paper is to discuss the pathological effects of the human ecological situation interpreted as the relation of individuals to cultures. Individual symptoms in social conditioning are to be interpreted as integrative level phenomena. The largest part of the external world, the astronomical domain of the macrocosm, for instance, exists at integrative levels lower than the human. There may be life on other planets, but there are more planets than are inhabited, to say nothing of uninhabitable stars, vast clouds of hydrogen gas. Even on our own planet, while exploration extends within the crust and into the ionosphere, life can be sustained for any length of time and in any numbers only on the surface. But at the human level the non-human areas are represented symbolically and so play a role in *absentia*. We shall consider further what happens to the representation of absent objects.

We begin with the prospect of the external world from the perspective of the human individual. It is a vast panorama of shuffled up materials, statistically more profuse at lower integrative levels. And this is true even for that small segment of the environment which is the available environment or mesocosm. Man lives in the "mesocosm," a middle world between two other worlds which he can explore but in which he cannot live: the world of the very small: the microcosm, and the world of the very large: the macrocosm. Within the mesocosm a bewildering array of stimuli furnish the contents of the continual input to which the individual is subjected. The efficacy of positive responses can only follow the learning of "the insignificance of all irrelevant stimuli" (8).

The environment extends, then, beyond the reach of the individual; but within his reach it contains the ingredients to satisfy tissue needs in varying degrees. We shall not attempt here to deal with all of these (13). His most pressing need, the need for sur-

vival, is met with the proper exercise of the avoidance response, and along with this no doubt go all varieties of aversion: fear, aggression, and flight. But with the needs for feeding and breeding, tension arises. Conventional types of thanatophobia are obscured by the more pressing search for food and mate, which are, respectively, less common than the ground he must have under his feet and the air he must breathe into his lungs. Muscle tonus and the oxygen supply take care of themselves; but hunger and sex cravings require more concentration. The constant foraging and courting constitute pressures, and when children are the outcome of the latter, it only increases the pressure of the former.

Thus the individual is driven back to the consideration of how these needs can be anticipated and perhaps met with a long-term supply. To escape the tyranny of the immediate environment, it is necessary to discover how to anticipate future tissue needs and to store up satisfactions to meet them. Communication with others having the same problems becomes urgent, for the successful outcome of such discovery requires the execution of tasks which do not lie within the range of the powers of the individual: hunting large animals, planting, protecting and harvesting vast crops. The entire enterprise, planned for the future, is a way of dealing with absent objects (7) in the general terms of a colloquial language. Inevitably, the relationship between these need-satisfactions is discerned, and curiosity aroused. The individual takes off in search of facts and causes.

It is important to notice, however, that a drastic reversal has taken place, one so subtle as to go almost unnoticed and yet so far-reaching as to constitute another stage in biological evolution. The proposition that *All inquiries are conducted for the sake of maintaining existence*, has been converted to the proposition that *All existence is maintained for the sake of conducting inquiries*.

Let us consider some of the consequences of the conversion. In the first place, we are

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of course talking about living propositions, propositions as exemplified in practice, not about the natural history of human thoughts. Men once went where their curiosity led them for the purpose of survival; now they endeavor to survive in order to go where their curiosity leads them. The turn has been called not by the recognition of it in discourse but by the events themselves.

In the second place, such a reversal plays havoc with the drives toward the satisfaction of such tissue needs. The brain once occupied a subordinate role, being subservient to stomach and gonads. Now stomach and gonads function in order that there shall be a continuity of activity for the brain. But there is a further dislocation; for bits of the environment are internalized by the stomach and gonads, but the larger environment is contacted by the brain.

Evolutionary development is inverse to morphological dependence(4). The higher centers, such as the frontal lobes, were late arrivals on the phylogenetic scene; but on the other hand, the brain depends upon the other organs for its survival, and within the brain the higher centers depend upon the lower. For instance, circulation throughout the brain depends upon the proper blood pressure; and a continual fall in the blood sugar would produce at first loss of consciousness (with involvement of the frontal lobes), next convulsions (the cerebellum) and finally respiration difficulties (the medulla) and death.

Finally, due to the external nature of the aim of inquiry, material objects are altered in the course of it. Inquiry involves analysis, but it also leads to synthesis: social groups are formed and their organization established, tools are designed and techniques devised, and both are copied, and structures are erected and inherited. The accumulation achievement replaces the continuity of conditions. In place of the mere repetition of behavior by the successive generations, there is a construction of culture.

As for the individual, the knowledge of what exists now becomes the object of his search. He has turned into the creature who survives in order to inquire, erecting quasi-permanent answers into institutions, social relations operating, so to speak, in a neurological setting. For now the depend-

ence of his organism upon the environment can be analyzed into one of dependence of the balance between homeostasis and the brain stem reticular activity. He bears the scars of his experience as collections of engrams, organized into explanatory beliefs: retention schemata both private and public. Thus equipped, he supplements the neurological homeostasis with a cultural homeostasis extended to include material objects (3). Such objects usually have the character of artifacts, because altered through human agency. His encounter with the environment in search of tissue-need satisfactions has resulted in an equilibrium between the retention schemata and the civilized external world. The continual interchange has been widely recognized; for it is acknowledged that "the cerebral instrument breaks down with zero input"(14) but on the other hand breaks down also when it is no longer able to sustain contradictions without diremption. It is the latter variety we have largely to deal with in psychopathology. Being human means sustaining private conflicts, and being social means sustaining public conflicts (as within and between the retention schemata). The neurotic is threatened by diremption and the psychotic has succumbed to it.

III.

Technological cultures, as products of the attempt to solve the long-term supply problem necessary for survival, themselves raise survival problems by bringing into play stresses of a peculiar type. In simpler cultures, in our own culture, too, in fact as late as the early 19th century, the individual was constantly subjected to external stresses and internal strains. Inter-personal relations, customs, institutions, with their conflicts and struggles, always exist. But the external stresses were limited to social struggles and the internal to the usual fear of death. In the complex cultures brought about more lately by the combination of the applications of science and industrial technology, a cultural homeostasis becomes more difficult to achieve and maintain. There are, of course, many psychoses to which youth is susceptible, such as hebephrenic schizophrenia and the psychopathic personality. But the aged are more susceptible, and in

1960 in the United States it was true that "one out of every three beds in public mental hospitals is occupied by a person 65 or older" (9). Rapid social change erodes the ground on which such a homeostasis could rest.

But there are worse difficulties. The chief feature of the scientifico-industrial culture which technology has developed is its abstractness. Forays into the microcosm and macrocosm have been successful. Men have returned with their scientific spoils, and the result is to change the character of the mesocosm, which now contains artifactual inhabitants seldom understood by non-specialists, with their effects which are less understood still. The average individual lives for the first time in a world populated with material objects and procedures he does not understand and is perhaps incapable of grasping. He drives a car but does not fully understand the principle of the internal combustion engine; he operates a television set but does not comprehend the principle of the vacuum tube; he engages in business but does not understand the modern complexities of banking; he ingests vitamin capsules or antibiotics without the slightest glimmer of how they were constructed or of what they do. He is both benefactor and recipient of inquiries predicated on the search for a solution to the long-term supply of basic tissue-needs conducted at the level of the inexhaustible tissue-need of inquiry, and yet he remains in ignorance. And at this level he is expected to adjust. The scientifico-industrial culture like all other cultures, resulted from human behavior; but now the capital city, which is one result, itself provides the new conditions to which it becomes necessary for men once again to adapt. This time they have provided themselves with the stimuli as well as the responses. They have invented their own environment.

Only, as it turns out, they have done so without anticipating and estimating the prospects and costs of adjustment. The mesocosm is for the first time a world of their own devising yet it now develops that they did not figure it closely enough. The immediate environment is an altogether artificial environment. They have made themselves a world in which to live, without con-

sidering just what it would mean to live in it. If it is true that the dependence of the organism upon its environment extends all the way from simple cell-division and the acid-alkalinity balance to the contents of excretions and the metabolic interchange, then what adjustments in body structure will be required for survival in the new social world? To live in the mesocosm now means to have all the stimulation of the receptors coming from the cultural environment. The ears are assailed by man-made sounds, from street noises to jazz. Few are able to escape from the roar of the traffic of some city. The eyes are continually in contact with artifacts. What with the skyscrapers, the obscuring city lights by night and the smog by day, the sky is hardly ever visible, and there is no incentive to view it. The nose is assailed by odors artificially produced, from the smell of asphalt and inhabited interiors to that of perfumes. Everything except artifacts is out of reach so that the sense of touch is equally confined. There are few foods ingested that have not been altered by the process of manufacture in some way, and thus even taste is artificially conditioned. Finally, even the muscle sense is stimulated by the activity of the muscles in exertion against artifacts, moving them about or altering their shape.

All of this is bound to have serious biological repercussions. Anatomical development over its long history has been shown to be a matter of adaptation through natural selection. It is assumed that this process accounts, for instance, for the adjustment of the respiratory system to the contents of the atmosphere, of the muscular system to the geosphere, of the digestive system to the biosphere, and of the nervous system to human society (the "siosphere").

Now in maladaptive behavior, there is usually phyletic extinction; but it is a peculiar feature of human society that it endeavors to bring the victims along. This has the double merit of helping them and of learning from the causes of their predicament how healthier specimens may better adapt and so survive. Space medicine is a recent development intended to study how to provide for extraordinary conditions, stresses, for instance, brought about by

gravity increases and by enormous accelerations in speed. But what is not equally recognized is that there are, so to speak, no ordinary conditions. The life expectancy has been extended and the buffeting multiplied.

Look at the individual from the point of view of the cultural environment in which he is presently immersed. See him as the recipient of stimuli projected from artifacts. He shaves with an electric razor, rides in a subway, rises in an elevator, operates a typewriter or a high speed computer, while his wife does the washing in a machine designed for the purpose, cooks on an electric grille and waits for his return to relax with the radio. They live in a world populated by little motors which they do not understand and which far outnumber them. But this is an empirical area and there is an experimental science which investigates it. The domain is that of social psychology, which is the study not of social groups and their behavior but of the modification of individuals by institutions and cultures.

The common world is a physical, chemical and biological world. The social world is a selection made by the alternation of responses to environmental stimuli in the form of constructions: tools, symbolic communication systems, institutions, cultures. Here the group decides, though not as a group, but rather as individuals in whom the group participates(2).

The gap between cultural artifact and psychological individual is the one the neurological circuit has to bridge. The issue always turns on whether the diversity of organic reactions can be stretched to cope with the complexity of conditions produced by the scientifico-industrial culture. One method is to extend technological assistance to the various organs: spectacles for the eyes, magnifying devices for the ears, prosthetic devices for the limbs, and so on. We see the problem more clearly in the case of a man who operates his television set with an artificial hand, watches it through corrective glasses, and listens to it by means of a hearing aid. These mechanical extensions to the receptors and effectors are in many ways quite satisfactory; and although they contribute toward enlisting the individual in the culture in a way calculated to render him an irreversible dependent,

they also help to stave off the reactions in which the breakdown of functions would otherwise occur.

We may, however, do well to consider a set of reactions in which breakdown does occur. A formidable one concerns language. An early and well marked mental defect is the loss of the ability to deal with abstractions. This may take one of two forms: either the individual loses the ability to abstract, or he loses the ability to control certain of his abstractions.

Inability to abstract is a well known maturational defect, but sensory and motor disturbances are often accompanied by symbolic deficiencies. Patients with brain injuries in the general region of Broca's area, the third left frontal convolution, avoid abstractions in favor of concrete terms; they cannot understand classes and class relationships. Aphasia is manifested by (among other symptoms) a lowered capacity for abstract thought, a deficiency shared by psychopathic personalities.

If the loss of the ability to abstract characterizes one type of mental disease, the loss of the ability to control abstractions characterizes another. There are at least two varieties, exemplified by the hebephrenic and the paranoid schizophrenics. In the former case, we have the spectacle of displacement into a fantastic private language from the failure to participate in conventionally established abstractions. In the latter case, the phenomenon is one of uncontrolled conventional generalization. The avoidance posture of the paranoid compels him to select particular threats in his environment, or to mistake neutral or friendly elements for threats. As the response of rage is made to the stimulus of fear, the inductions of the paranoid proliferate indiscriminately. "This man is against me" implies 'All men are against me' implies 'I am being persecuted.' The organization of the antipathy of all men is unwarrantedly assumed in this enthymeme.

Neurotic behavior is maladaptive behavior; psychotic behavior marks the retention of maladaptive habits, their establishment as a personal but less than provisional security. The motivation of survival has replaced the need of inquiry, a distinct regression. At the same time, an autistic ad-

justment is not an acceptable settlement, for it decreases the external stresses at the cost of increasing the internal strains. Hence the prevalence of suicidally inclined patients in mental hospitals.

There is, as Walter has pointed out, only one chaos(15). The chaotic world of the psychotic is to that extent a common world. But there are many types of order. The approximation to the condition of chaos on the part of the stimulus-world is an approach to zero input. The world of the hebephrenic is a chaotic world from which stimuli have been held to a minimum, and as a consequence the activity of the higher centers of his nervous system no longer constitutes a learning process. External order, in short, is a condition of proper functioning for the organism, and external order can be apprehended only through the abstract symbols of a technique of communication, which is to say, through a language.

The history of the organism, which must be taken into account in explaining its behavior, does not mean references to the past but to those alterations in the organism made in the past but existing in the present, alterations such as the posited engrams and the more manifest habitual behavior patterns. Unfortunately for the stressed individual, these include conflicting schemata: the public retention schema containing the ideals of social behavior, as taught in early years by parents, teachers and textbooks, and the statements of public officials; and the private retention schema containing the hard facts as personal experience has revealed them: as for instance the cutting edge of the selfishness or the dishonesty of others, bitter disappointments, secret but forbidden enjoyments, short turns to success. In other words, as the two types of schemata collide, the conditions for private conflict are laid down early and well. They insure that the individual will have the task of integrating his own conflicting schemata before adapting to the alien world of his culture's devising. If he fails to succeed in this, he has little choice but to subside to lower integrative levels; lower organisms are not capable of sustaining diverse retention schemata, and psychotics no longer undertake to do so.

The exceptions, perhaps, are sufferers

from paranoia, who keep the external world separate from their delusional systems, and the psychopathic personalities who persist in expecting agreement from the external world for theirs. The high order of logical structure retained in paranoia for the delusional system is spread by the psychopathic personality thinly over the connections between his own goal-seeking and the objective facts. Both are victims of atrophy of the feelings, and lack all empathetic reactions. Something of this sort is suggested by the discovery of the dysfunction of the autonomic system in psychotic individuals(10) but the difficulty is in all likelihood more widespread.

Psychotics are quite capable of dealing with artifacts, but the social contacts have been cut at the level of inter-personal relations. What does this mean, except that the psychotic denies an interaction and looks for affects that flow in one direction only. He can take, but he is in no position to give.

III.

In the first part of this paper were set forth some of the stages in the process whereby cultures have developed out of the attempts to anticipate and prepare for the satisfaction of future basic tissue needs. We saw how the brain, which came to the fore in this effort to help feeding and breeding, ended by taking precedence over them; so that whereas it had existed for them they now had come to exist for it. This new adjustment led to a species of human maladaptation. In the second part of the paper it was shown how, in the attempt to live in the environment brought about by the cultures they have produced, men have tended to break down. Psychoneuroses and psychoses are the results of the stresses of complex scientifico-industrial cultures.

Now it will be necessary to address ourselves to the solution of problems raised by the existence of culture as the human environment. Cultures are not new and the individual strains of living in them are not new, either. But in earlier cultures, the cultural environment was a small part of the available environment. In the scientifico-industrial cultures it begins to encroach strongly. Thus it raises problems which, if not altogether novel, present difficulties to

a degree that amounts to a major crisis. What, if anything, can be done about it?

We may perhaps begin the discussion of this question by taking a page from the science of neurology. There we find two conflicting conditions. It seems that for the normal functioning of the human organism both the constancy of the external environment and differences in stimulation are required. Perception appears to hang upon the former and consciousness upon the latter.

Perception is of a physical world independent of the observer, a world which is stable, rigid, solid and orderly in a way which, as Gibson says, gives "objectivity to our experience" and makes perception itself possible(6). For perception—in this case visual perception—is constructed to encounter such conditions and relies upon finding them. Gellhorn goes so far as to assert that "the constancy of the external environment is a cortical function"(5), without which the individual would neither be suitably oriented nor able to act purposively.

That consciousness would not be possible without differences in the objective field of consciousness has been shown by experiment(1). Monotonously repeated stimuli lead to sleep. The inner ear, which is so sensitive to any irregular forces, does not react at all to uniform motion. Order among stimuli is relaxing. Hypnotism relies heavily upon this effect, and anyone who has driven a car for hours over a straight and level road can testify to its truth. The uniformity of perfect order or of chaos allows for no stimuli at all, and without the continuous input of diverse stimuli there is no consciousness.

How, then, is this paradox to be related to the problem of resolving the psychopathological strains which complex cultures impose upon their individual members? The next step is to discover the optimal pragmatic set of conditions under which cultures can be maintained with their immense benefits, but without serious damage to the individual. How much progress in cultures can the individual support? There are, once again, two parts to this question. There is the problem of the internal dislocation in the individual: the distortion of the private retention schema by the public.

And there is the problem of the external dislocation of the culture: the distortion of the institutional structure by the ascendancy of a particular institution.

Both problems resolve themselves into one again when we consider that the state of the culture is operant in both cases with equal effectiveness. For the internal dislocation of the individual depends upon the character of the cultural stimuli to which he is subjected, and the institutional state of the culture depends upon his own sense of what institutions are most important in conducting inquiries. Thus at the present time science is the crucial institution; it offers not only to feed the basic tissue need of pure inquiry but also to further the long term supply of satisfactions for the survival needs. As a consequence the rapid rate of change in fundamental theory brought about by the new conceptions of matter and of the cosmos has compelled a revision of the public retention schema, while technological advances have improved the food supply, both as to quantity and quality, increased the safety of birth-control and provided efficient contraceptives.

However, these changes have been brought about at a rapid rate, and the resultant challenge to the homeostasis of the individual is alarming. Too much and too frequent stimulation has its price. It is possible to over-stimulate, with a result not unlike the absence of all stimulation. To quote an athletic director, "these ailments are continuous—always something new" (11). The life expectancy has been dramatically extended but so has the prevalence of mental illness. The enormous rise in the population of our mental hospitals in recent years, together with the immense number of psychoneurotics and even psychotics who are able to maintain themselves on a precarious balance outside, is well known.

At this point, it seems impossible to turn the clock back. The cerebral development, and in particular the development of the frontal lobes, prohibits the mere existence of man at the monotonous level at which change and progress in living conditions prevails. The cerebrum assures the continuance of inquiry whereas the more fundamental mechanisms of the reticular forma-

tion of the brain stem requires a constancy of the external environment. From the stimulus end, the cultures we inherit make more complex inquiry possible but also block them out by vested interests in already existing knowledge. Science is inquiry incarnate, but government has now joined religion in regulating such inquiry and by consequence slowing it down or giving it more practical direction.

Thus the psychological solution could be effected by a cultural shift: easier adjustment of the organism to a slower gain in the increase of knowledge. As for the mentally unfit, this would be especially true. If stronger measures are needed, then deliberate cultural regression could be practiced. Hospitals for mental diseases ought to be constructed in the remote countryside, and approximate as near as possible to primitive conditions. Outdoor plumbing, wood fires for heating and cooking, crude accommodations, all designed to allow the readjustments to be slower. This is a possible solution of the future, but it is not the ideal one. The ideal solution would combine the peace and serenity of conservatism with the excitement and vitality of progress, avoiding both the stalemate of repetition and the turmoil and insecurity of rapid change. There would be no longer any traditional ways of doing things but instead habits would be hooked up to an irregular rate of advance. Another biological adjustment would come into play: the tuneable homeostat of a servomechanism as the functioning model of the central nervous system (12).

So much for the psychological subject. As for the object, it would have to involve a better adjustment between institutions. No single institution would be allowed to run away with the others, but novelty would be provided by all. Cultural lags in institutional advancement would be studiously avoided and the proper institutional relations discovered and established. The emi-

nation of human maladaptation depends upon the provision for a proper cultural environment, the ecological ideal upon the proper interdependence between the organism of the individual and the environment of the culture.

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THE MEASUREMENT OF AN INHIBITORY PROCESS IN HUMAN HIGHER NERVOUS ACTIVITY: ITS RELATION TO ALLUSIVE THINKING AND FATIGUE¹

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THE NATURE OF ALLUSIVE THINKING

Bleuler(1) was the first psychiatrist to point out that schizophrenics who have recovered from their illness in all other respects continue to show, in milder form, the disordered thinking they suffered from when frankly ill. This observation was repeated by Skottowe(2) who stressed, in addition, that in the recovered patient it is only abstract thinking which remains affected. Concrete thinking, the ability to relate his day to day experience may be disturbed in the schizophrenic; the recovered patient only shows evidence of thought disturbance when he abstracts, or makes deductions, from his experience.

This observation of Bleuler and Skottowe has not been generally confirmed by the majority of psychiatrists. This is considered by the author to be due not to the inadequacy of the descriptions of Bleuler and Skottowe but to the fact that, as with other clinical phenomena, training is required for its detection. If, when learning to recognise the various type of heart sounds, one had to rely solely on the descriptions in text-books without being able to check one's observations against those of the trained physician, the possibility of mastering this task with accuracy would be considerably reduced. In fact, even with the intense training in the detection of physical signs given in most medical courses, recent studies(3) have shown that the reliability of senior physicians to detect such signs as impaired breath sounds, hyperresonance, impaired cardiac and liver dullness is much lower than would be expected. However, no one would argue from this evidence that these conditions did not exist. If this applies to the detection of physical signs it must apply even more so to the detection of differences in the mental

states of individuals. For there to be reasonably common agreement as to what are meant by such terms as "flatness" or "incongruity" of affect, there must be repeated demonstrations of these conditions by the teacher to the student. Still more so must this consideration apply to the recognition of a type of abstract thinking so subtly different from that present in the rest of the population that its existence has been so far noticed by only two psychiatrists.

For this reason, the author, in putting forward yet another description of this type of thinking, does not expect that it will enable people to recognise this condition clinically. However, as he considers that the present study establishes its existence and throws light on its causation, it is desirable that the reader has as clear an idea as possible of its nature. Both Bleuler and Skottowe observed this thinking only in recovered schizophrenics and so regarded it as a residual symptom of this illness. However, it has already been advanced by the author(4) that this is the normal form of abstract thinking of a percentage of the population. That is, the majority of persons in whom this thinking is found have never suffered from schizophrenia. It is considered that this mode of thinking acts as, or indicates the presence of, an inherited predisposition to this illness, thus explaining its presence in those who recover from this condition. It has been shown(5) that it is present in one parent when it is present in a patient and the present study gives further evidence of its occurrence in normal individuals. Furthermore, it is considered that it conveys certain advantages to the possessor(4). Therefore, to avoid any implication of pathology and to stress one of its important positive aspects it will henceforth be referred to as "allusive thinking."

Though the author is convinced that this type of thinking is either present or absent in any one person, it is not suggested that when present it does not vary in degree. In

¹ Read (in part) at the annual meeting of the Australian Association of Psychiatrists, Adelaide, South Australia, Oct. 17-20, 1960.

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fact, as Bleuler noted, with some individuals one only becomes aware of its presence after persistent observation. One reason for this is that as only abstract thinking is affected, unless the subject being examined can be made to think at this level, one cannot be sure that the potential for this type of thinking is absent.

As it is necessary to make the subject abstract, it is easier to detect the more obvious forms of allusive thinking in an interview situation, where the nature of the conversation can be determined by the examiner. Also, this allows the possibility of questioning the subject as to what he meant, since the examiner must be convinced that the subject is completely satisfied with his statements and that any obscurities in them are not due to his clumsiness of speech or an inability to express himself of which he is aware. In an interview, allusive thinking manifests itself in two ways. Firstly, words are used which are slightly inappropriate because the subject expresses himself in too few words (over-condensation) and at a more abstract level than is suitable, as in the following example:

Examiner: How are you now compared to how you were 5 years ago?

Subject: The only difference now is loss of material benefits.

Questioned as to what he meant by this he said he had been forced to sell his house and car to pay for analytic treatment. Secondly, ideas are expressed imprecisely, again, generally, the fault being in the choice of over-abstract concepts. The following examples are all taken from interviews with the students of the experimental group: "The ultimate questions of motivation are non-psychological." Asked what this meant he replied: "It (psychology) may tell you the cause, it won't tell you the reason people do things."

Another spoke of *The Cocktail Party* which had been very meaningful to him. Asked what meanings he saw in it, he said of the people in the play, "The ritual gave them a sense of conformity which gave them a sense of continuity."

These examples demonstrate that practically complete failure to communicate can result from allusive thinking.

It is not, however, claimed that persons

with this mode of thinking always fail to convey their meaning, but only that they use words inappropriately in a characteristic way. Often the meaning is apparent and just as many psychiatrists learn to communicate with schizophrenic patients so well they lose the ability to appreciate the existence of schizophrenic thought disorder when it is often grossly apparent to newcomers in psychiatry, so this lesser form of unusual thinking passes unnoticed by most people for the same reason. Of course, one does not rely on the occurrence of one such expression in a person's speech to diagnose this condition, but on their repeated employment.

When this sort of analysis is made of speech the objection is usually put forward that various psychological factors would account for these statements. Of course this is so. Perhaps the most probable would be that these persons lack verbal fluency. To demonstrate that this need not be the case the following example is taken from *Voss*, widely considered one of the greatest of the post-war novels.

How her defection (from religion) had come about was problematic, unless it was by *some obscure action of antennae*, for she spoke to nobody who was not ignorant, and innocent, and kind. Yet, here she was become what, she suspected, might be called a rationalist. If she had been less proud, she might have been more afraid. Certainly she had not slept for several nights before accepting that decision which had been in the making, she realized, several years. Already as a little girl she had been *softly* sceptical, perhaps out of boredom; she was suffocated by the fuzz of faith. She did believe, however, most palpably, in wood, with the reflections in it, and in clear daylight, and in water. She would work frantically at some mathematical problem, even now, just for the excitement of it, to solve and know. She had read a great deal out of such books as had come her way in that remote colony, until her mind seemed to be complete. There was in consequence no necessity to duplicate her own image, unless in glass, as now, in the blurry mirror of the big darkish room.

Apart from the somewhat odd expressions, there is a degree of irrelevance in many of the associations and there is at least a degree of failure to communicate the

meaning of the last sentence, in that one cannot be entirely sure of its meaning. If "duplicate her own image" means believe she has a soul, this utilisation of both the abstract and concrete meanings of the phrase is an excellent example of the author's mastery of allusive, evocative writing.

It was previously stated that in fact the allusiveness of such thinking was one of its greatest advantages. By this is meant the ability to allude to more than one concept, without their being actually stated. One's clinical impression is that the quality of attention is different in persons with this thinking. It is coarser, that is, it includes more concepts, but cannot become narrower, so that the concepts that are included in attention at any time are not accurately defined. Hence those with this thinking can convey more, but in an imprecise way. Here is an example from the novelist Ronald Firbank. He writes of one of his characters, Lady Parvula de Panzoust, who could perhaps be best described as a deliciously wicked woman. "She was looking charmingly *matinal* in a simple *invocative* (this he has himself emphasised) hat . . ." The religious overtones of both these words add enormous subtlety in their context as his art lies in the evocation of a world at once religious, depraved and artificial.

The author of course realises that he has not disposed of the many alternative elaborate psychological explanations that could be put forward to account for the employment of the types of associations described. He prefers to call upon the principle of economy, though aware that unlike other scientists, psychiatrists tend to prefer its converse, the principle of affluence—never employ a simple explanation if a more complex one will serve your purpose. He therefore argues that if it can be demonstrated that the behaviour of persons assessed as showing allusive thinking differs in predictable ways in a variety of situations from that of persons without such thinking, the existence of this type of thinking as a clinical entity is sufficiently established. It has been demonstrated elsewhere(6) that the performance of allusive thinkers on a Sorting Test differs in this way. The present study

investigates their behaviour in a learning situation.

THE PRESENT STUDY

It has been suggested(4) that allusive thinking is due to a weakness of an inhibitory process in the higher nervous activity of the person demonstrating the condition. This study is designed to test this hypothesis. Such an hypothesis is only comprehensible within the framework of a theory which explains mental activity in terms of the interaction of excitatory and inhibitory connections. Both Bleuler and Pavlov have independently put forward such a theory. Neuropsychological evidence for the theory has recently been advanced by Kaada, *et al.*(7, 8), who have suggested that this generalised inhibition accompanying mental activity is produced by the arousal response. Bleuler(1) considered that the condition he called schizophrenic thought disorder—the employment of inappropriate associations—was due to a weakness of the inhibition which accompanies attention and produces the "constriction of the field of conscious awareness" characteristic of all normal thinking. Pavlov(9) found that certain dogs showed an inherited weakness of inhibition which resulted in their showing certain characteristic "personality" traits. The author (4) combined these two theories and put forward the hypothesis that allusive thinking in humans is due to a similar inheritance of a weak inhibitory process.

If this hypothesis is correct it must mean that there are mechanisms common to the nervous systems of both man and dog and it is such a mechanism which is affected in this way. Therefore, to test this theory it would be most reasonable to investigate behaviour which is influenced by the action of such a common mechanism. The learning of a serial set of responses is the best known example of such behaviour. Munn(10), comparing the performance of humans and rats in learning a maze states:

The number of trials required to learn, the number of errors made, and the time consumed, are not greatly different between rats and college students. Sometimes the rats come out slightly ahead and sometimes the students.

The mammalian nervous system has through its development been enabled to master tasks of greater and greater complexity. However, its ability to master this simple task—the learning of a serial set of responses—has not significantly altered. Here it would seem its performance is limited by some characteristic, unalterable by evolution. Such a task then is most likely to provide information about a mechanism common to the mammalian nervous system irrespective of species.

When the learning of a serial set of responses is investigated it is found that the middle portion of such a series is the hardest to learn. Within the framework of Pavlovian theory this can only be due to the operation of an inhibitory process and it has been so regarded by workers utilising this framework as well as by other learning theorists who also accept a concept of inhibition (11-13). The author has in the present study investigated the hypothesis that this inhibitory process is weaker in persons who show allusive thinking, that is, that those with allusive thinking will show less difficulty in learning the central portion of a serial learning task than will persons without this type of thinking.

THE EXPERIMENTAL GROUPS

The results obtained with two groups are reported, as the subjects of Group 1 were not available to repeat the experiment with an alternative design.

Group 1 consisted of male undergraduates of the University of Adelaide, males only being employed as they were also investigated with a conditioning technique devised by Lovibond which was suitable for use only with this sex. (The results obtained with this technique are being reported separately). Fifty-five students, mainly the male students taking psychology, were interviewed individually for approximately 10 minutes by the author, who attempted to divide them into those with and those without allusive thinking on the basis of the description given above. It would, of course, be expected that the reliability of this assessment would be lower than that which would be obtained with longer and repeated interviews. However, it was considered possible to classify in this way 52 of the

students. Of these, 38 came for investigation at the subsequent session and so made up Group 1. Of these 38, 18 had been classified as having allusive thinking; 20 had not. The mean age of the former was 22.9 years (range 17-34) and of the latter 21.9 years (range 18-39).

Group 2 consisted of 20 adults well known to the author and selected by him to include 10 persons with and 10 without allusive thinking. All with the exception of a housewife and a fifth-year male medical student, were working effectively at a professional or executive level and all were free from signs of overt psychiatric illness. Apart from the student all were university graduates or of equivalent educational status. The sub-group with allusive thinking consisted of 7 males and 3 females with a mean age of 31.2 years (range 23-38) and that without it also of 7 males and 3 females, with a mean age of 31.0 years (range 24-35).

METHOD

It was found by Pavlov (5) that the nervous "type" of dogs could be assessed more easily if they were tested after their nervous processes had been strained by carrying out a difficult task. This finding was utilised in the design of this experiment. Subjects were required to learn two lists of low association nonsense syllables (this being found a difficult task by most people), followed by two lists of words. This design was used with Group 1. The subjects of Group 2 were given two stylus mazes to learn between the nonsense syllables and the words. As maze learning is accomplished by most people with little concentration, it was considered this would allow the nervous processes to partially recover and thus might make differences in nervous "type" more obvious. The subjects of Group 2 then repeated the experiment, learning first a list of words, then lists of nonsense syllables and then more lists of words. This design was introduced to demonstrate that learning lists of nonsense syllables did in fact strain the nervous processes. The details of these 3 designs are given in Table 1. One minute intervals were allowed between the learning of each task. The lists of words and nonsense syllables were presented by means of a memory drum which exposed one word

TABLE 1
Order in Which the Learning Tasks were Administered

Group 1	List of N. Sylls. ¹⁺	List of N. Sylls. ²	List of Words. ¹	List of Words. ²		
Group 2-						
Experiment 1	List of N. Sylls. ¹	List of N. Sylls. ²	Maze. ¹	Maze. ²	List of Words. ¹	List of Words. ²
Experiment 2	List of Words. ¹	List of N. Sylls. ¹	List of N. Sylls. ²	List of Words. ²	List of Words. ³	

+ N. Sylls. = Nonsense Syllables.

or syllable for a period of 3 seconds and then instantaneously replaced it with the next. Learning was by the method of anticipation. In each case the lists of nonsense syllables contained 9 items and the words 16. The stylus mazes contained 16 choice points.

In the case of each task, learning was carried on to two consecutive correct performances of the list or maze, or to 16 trials, whichever came first. The nonsense syllables were chosen from the lists of those of low association value given by Hilgard (14). In the case of Group 1 and Group 2 Experiment 1, the words were chosen to make up two lists, one of words having low association value with each other, and the other of words having high association value with each other. (This difference is not significant for the results being reported; other results are being published separately.) The words for these two lists were derived from data of Mednick and de Vito (15). In the case of Group 2 Experiment 2 the words were simple words chosen at random from the dictionary.

RESULTS

The difficulty each subject had in learning the central portion of the lists was quantified by the use of the following formula, the resultant being termed the Inhibitory Index:

Total number of items
learned correctly up to but
exclusive of the first correct
performance or in 16 trials,
whichever criterion was
reached first.

Inhibitory Index =
(I.I.) $\frac{\text{Total numbers of items in
the middle } \frac{1}{2} \text{ of the list
learned correctly in the
same number of trials.}}{\text{Total number of items
learned correctly up to but
exclusive of the first correct
performance or in 16 trials,
whichever criterion was
reached first.}}$

If no inhibition were operating there should be equal likelihood that items within or without the middle $\frac{1}{2}$ would be learned and the I.I. would = 4. The stronger the inhibitory process the more the I.I. would exceed 4.

The method of assessment used was based on the hypothesis that learning the nonsense syllables would weaken the inhibitory process being measured. It is considered that this is a labile, dynamic process, changing in intensity with the condition of the nervous system, as Pavlov (5) found with the inhibitory process in dogs. Hence it was decided to attempt to sample the range of the fluctuation of this process by obtaining more than 1 measurement. For this reason, 2 lists of words were used in each experiment, considerations of time preventing more than 2 being used. In the experiment with Group 1 and with Group 2, Experiment 2, the word lists were administered immediately after the nonsense syllables so the inhibitory process was being measured at its weakest. Hence in these 2 experiments it was decided to compare the lower of the 2 values of the I.I. for each subject. With Group 2, Experiment 1, the maze learning was interposed between the learning of the nonsense syllables and words to allow the inhibitory process to commence to recover. Hence the inhibitory process was being measured in its recovery stage and it was decided to compare the higher of the 2 values. The decision to employ these methods of assessment was made at the commencement of the experiments.

In all 3 experiments the trend was in the predicted direction, that is, persons with allusive thinking had lower I. Indices than people without. In the case of Group 2, the scores of 14 of the 20 subjects, (70%) were

TABLE 2

I. Indices-Group 1, Word List (lower of 1 and 2)		I. Indices-Group 2, Word Lists		I. Indices-Group 2, Word Lists (corrected to equalise differences in learning)	
Subjects without Allusive Thinking	Subjects with Allusive Thinking	Word List 1	Word List 3 & 4 (averaged)	Word List 1	Word List 3 & 4 (averaged)
5.9	4.9	5.6	17	5.6	27
5.1	4.7	4.6	5.2	5.5	5.1
5.0	4.5	12.8	6.3	12.8	6.4
4.7	4.2	9.6	5.5	9.6	5.5
4.7	4.1	20	6.6	30	7.9
4.6	3.9	6.5	4.3	10.9	4.3
4.3	3.9	4.9	4.1	5.1	4.1
4.3	3.9	14	6.7	14	7.8
4.1	3.8	6.6	3.6	5.6	3.6
4.1	3.7	4.8	4.9	5.5	4.9
4.0	3.7	5.0	4.7	5.0	4.9
4.0	3.6	5.2	5.0	5.3	5.0
3.9	3.5	17.5	5.4	17.5	5.9
3.9	3.5	4.9	3.8	6.1	3.8
3.7	3.3	9.8	4.4	9.8	4.7
3.5	3.2	7	6.0	7	6.9
3.5	3.1	4.1	5.6	4.1	5.6
3.4	2.7	7.3	15.8	10.1	15.4
3.3		4.4	5.4	4.4	5.2
3.2		10.6	4.1	10.6	4.0
4.2	3.8	8.3	6.2	9.2	6.9 Means
p .05		p .05		p .025	

in the direction predicted. This trend did not reach significance. In the case of Group 1 the scores of 25 of the 38 subjects, (66%) were in this direction and with this larger group this difference is significant at the 5% level, using the Mann-Whitney test. The I. Indices for this group are given in Table 2.

To investigate the hypothesis on which the method of assessment was based, that the learning of nonsense syllables would weaken the inhibitory process under investigation, Experiment 2 with Group 2 was carried out. The I. Indices for the subjects' performance on word list¹, administered before the nonsense syllable learning, were compared with the average of the two I. Indices for the performance on word list² and word list³, administered after the nonsense syllables. The I. Indices after nonsense syllable learning were lower than those before. This difference is significant at the 5% level, using the Wilcoxin test of paired replicates. These scores are also

given in Table 2. As the subjects learned list² and list³ better than list¹, presumably an effect of practice, it could be argued that the difference in the I. Indices is due to the greater number of words learned in 16 trials. To allow for this the I.I. was recalculated for each subject's performance on list² and list³ up to the trial when they had learned the number of words nearest to that learned on list¹. The average of these two I. Indices was still lower than the I. Indices for the subjects' performance on list¹. This difference is significant at the 2.5% level using the Wilcoxin test. These scores are also given in Table 2.

DISCUSSION

It has been shown that the inhibitory process which produces difficulty in learning the central portion of a serial learning task is weaker in people with allusive thinking. It is of importance to know the nature of this inhibitory process. Most workers have considered it to be due, to the setting-up of conflicting associations(16). For ex-

ample, if the items of a series are represented by a-b-c-d, they consider the associations set up between a and c and a and d interfere with the learning of a-b. However, it has been shown by the author in the present study that this difficulty in learning the central portion of a list is lessened after carrying out a difficult learning task, though learning ability is not diminished. This must mean that this inhibitory process is in fact an active one which is weakened by fatigue, and not merely a passive interference of conflicting associations which would still be set up in the above situation.

It is the author's belief that this inhibitory process is that which accompanies attention and produces subjectively the "constriction of the field of conscious awareness" and objectively the electroencephalographic change termed the attention or arousal response. This response is produced when past learning is inaccurate, that is, when prediction fails—when an unexpected stimulus presents itself or when an expected one fails to appear. One of the biological roles of the response appears to be the correction of this faulty learning by setting up excitatory connections between the cortical representation of the unexpected stimulus and that of the immediately previous events and by weakening (with internal inhibitory connections) the excitatory connections active prior to the response, which led to the faulty expectation. Hence attention aids the learning of the items it is focused on at the moment while inhibiting those it was focused on previously. When a series of responses is being learned, attention is focused on one after the other, so that while excitatory connections are established to those in the focus of attention, inhibitory connections are being established between the others.

The author considers it is this inhibitory process accompanying attention which produces the effect measured in the above experiment. The finding that this process is weak in persons with allusive thinking is in conformity with Bleuler's theory as to the nature of the thought disturbance he described and with the author's clinical description of this condition. Furthermore, Malmo and Amsel (17) have shown that the reverse condition—an increased difficulty in learning the central portion of a list occurs

in patients after partial frontal leucotomy, when compared with normals. Partridge (18) found that such patients when concentrating on one activity did not have their attention distracted, even by significant events happening about them. For example, one such patient when engaged in conversation did not notice her kettle boiling over. This suggests the inhibitory process associated with attention is stronger in such people. Hence the finding of Malmo and Amsel is in conformity with the author's theory that the difficulty in learning the central portion of a list is due to the operation of the inhibitory process associated with attention.

It was stated earlier that the author had shown that when a schizophrenic patient shows allusive thinking one of his parents does also. It could not previously be excluded that this familial tendency was due to transmission through environmental contact with the parent rather than being due to a hereditary factor. However, the reduced difficulty in learning the central portion of a word list found in people with allusive thinking can hardly be explained in this manner. Therefore, this finding considerably strengthens the author's hypothesis that allusive thinking is inherited in dominant fashion.

SUMMARY

The observation of Bleuler and Skottowe that certain recovered schizophrenics continue to show a special form of thinking is examined. The author's theory that this thinking is also shown by a percentage of the normal population who have never suffered from schizophrenia is stated and his clinical description of this mode of thinking, termed "allusive thinking," is elaborated.

It is shown that normal subjects with this thinking show less difficulty in learning the central portion of a word list than do subjects without it. Evidence is advanced that this is due to a weakness of the inhibitory process accompanying attention. This is considered to support Bleuler's view that this mode of thinking is due to such a weakness. It is also considered to support the author's view that the familial occurrence of allusive thinking is due to inheritance rather than environmental contact.

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SPIRIT POSSESSION IN HAITI

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Spirit possession is a phenomenon known to mankind since Biblical times. It refers to a relationship existing between spirits and humans manifested by the possession or incorporation of the human being by the spirit, so that the behavior of the human is taken as the behavior of the spirit. This phenomenon is widely present throughout the world and has been reported not only in Africa and Asia but on other continents as well (10). Perhaps the most complete survey of the subject was undertaken by T. K. Oesterreich who published the classic volume *Possession* in 1930 wherein he considered the phenomenon among primitive races, in antiquity, in the middle ages and in modern times (14). The behavioral character of the phenomenon, most writers agree, has much the same range of appearances from one society to another. Explanations have always differed, however, as have attitudes toward the possessed. Oesterreich has suggested that throughout the ages and at all levels of civilization the phenomenon has been a manifestation of a psychic compulsion.

There is an extensive literature on the subject which has been analyzed in a number of ways. All the theories, metaphysical, theological or psychological have been characterized by a necessity to explain the origin of the new personality emergent in the possessed. Thus the Biblical interpretation concerned notions of the Devil and demons, explanations which persisted in the Western world late into the 19th century. Moving from animistic assumptions of spirit movements, psychological interpretations have sought the explanation in psychic processes. Thus possession has been explained by psychoanalytic theorists as a return of the repressed, wherein Id representatives overwhelm the Ego in a state of dissociation (8, 10). Others, describing the phenomenon in Haiti, have considered it as theatre (13), as a confessional played but not spoken (13), and as a controlled

means for communication normally with the supernatural (6). Perhaps most interesting in the literature on Haitian possession are the personal accounts of individuals who have themselves become possessed. In one subjective account one senses the emphasis placed on the situational stimuli necessary to enter into the trance state of possession (2).

The phenomenon of possession has an important role in Voodoo.² For adepts it is the means by which the Voodoo *loa* (spirit deities) interact with mankind. Through possession of a member of the congregation the *loas* enter the midst of the congregants to punish, admonish, reward and encourage them as well as treat and cure their ills and worries. For the adept the *loas* are recognizable by their appearance, behavior and temperament and other human qualities and characteristics as they are manifested in their human agents (4).

Possession occurs when a *loa* selects "to mount" or "enter the head" of his *cheval* (person possessed). The soul of the person (*gros bon ange*) is replaced by the *loa*. The possessed loses all individuality and becomes the vehicle of the *loa*. All his thoughts and behavior are attributed to the *loa*. Many speak in African dialects, the languages preferred by most *loas*. Some possessed by *Damballa*, the snake god, may perform extraordinary feats of agility and balance, such as tree climbing and branch swinging, often climbing down the trunk head first. Others may hold hot irons in their hands, chew broken glass or walk bare-footed over hot coals. After the possession, most are amnesic for the preceding events (11). As Madame Tisma Innocence, an old and revered *mambo* (Voodoo priest-

² Voodoo, the Haitian folk religion, is derived from a syncretism between African animism and Catholicism. This religion is an elaborate one containing a hierarchical structure of gods, saints and angels, a sacred cult, propitiatory rites, temples and a stratified clergy. It has been practiced secretly for many years because of religious and political pressures but currently enjoys relative freedom, and ceremonies take place under the aegis and approval of public officials.

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ess), said: "You loss your consciousness. You have only your body. Your soul is replaced by the *loa*. The *loa* controls your brain, you forget everything."

The disorganized, theatrical and histrionic quality of possession varies from one individual to another, but usually the more experienced individuals have smoother and less chaotic transitions to possession. Exceptions to this exist and depend on the nature of the *loa* possessing the adept so that a violent *loa* will be expected to possess his *cheval* in a violent stormy way. The struggle the *cheval* has in bearing his "mount" is considered as manifestation of this difficulty of "bearing a *loa*." Most Voodoo audiences show great sympathy for the person struggling with a *loa*.

Possession is a usual feature of ceremonies but it is also seen during divination and treatment situations in the *hungan* (Voodoo priests) who invoke the power of their *loas* for these purposes. Occasionally some have observed it in such non-religious surroundings as market places(13). Others have identified the phenomenon outside Haiti occurring in Negroes many generations removed from their African heritage(1).

POSSESSION OF A HUNGAN

For purposes of divination, fortune telling and curing, most *hungan* invoke their *loas* through incantations, prayers and symbolic offerings. In the *houmfort* (temple) and seated before his altar with visitors seated behind him, the *hungan* performs such rituals as reciting the rosary, dropping holy water in patterns of three and lighting candles. He gradually becomes absorbed in prayer, softly singing religious chants and crossing himself innumerable times. There is then gradually and progressively an involvement of his back, shoulder, neck and face muscles which contract first independently and then in unison, the *hungan* progressing to a state of shaking tension where his entire body seems involved. Previously articulate speech turns to grunts and his face is painfully twisted until it is unrecognizable. When possessed, the *hungan* turns and greets his audience with his *loa's* characteristic salutation. Henceforth communication is between the *loa* and the audience. All de-

mands for money, sacrifice, adherence to particular treatment regimens, etc., are requests of the *loa*, not the *hungan*.

The characteristic feature of the *hungan's* possession is the facility and ease of transition to such a state. This can best be attributed to his familiarity and extended experience in entering such states. Save for the changed voice, posture and facies, most *hungans* preserve an amazingly keen awareness and consciousness of the ongoing situation and their role in it, and are able to rely on their vast resources of knowledge and intuitive talents in diagnosing and treating, while being possessed.

Throughout the ceremony the participants depend on the *hungan* who both encourages their self abandonment and controls the limits. The *hungan* himself would seem to be able to do this by virtue of the authority vested in him by his office as priest and undoubtedly because of the belief the congregants have in him. Usually he is a sincere individual. Occasionally, however, he is a psychopathic individual who consciously recognizes the culturally defined needs of his congregants which he manipulates for his own profit. In the case of the sincere *hungan* his possession is mild because of the minimum anxiety he feels in becoming possessed. There is little difficulty for him to control his behavior in this culturally sanctioned role. In essence most *hungans* can readily give up those characteristics defining them as individuals, making themselves into religious personages, and becoming thereby culturally recognizable individuals only. All *hungans* in effect are known by the spirits possessing them and not for their own personality attributes.

POSSESSION OF AN ADEPT

Most Voodoo ceremonies begin as the *hungan* kneeling before his altar invokes the spirits and gradually becomes possessed. During the ceremony, influenced by the dancing, drinking, singing and convivial atmosphere, the other congregants frequently become possessed. Their crises, however, are marked by a greater loss of self control and consciousness than are those of the *hungan*. During one ceremonial, I was able to observe closely the

behavior of a *hunsì* (adept) who became possessed. The main feature of the ceremony was the ritual sacrifice of a goat, without a knife. The *hungan* had donned a bright red military uniform and all the female congregants were brightly garbed in red dresses. The ceremony had been going for several hours and there had been much dancing and drinking.

As the seemingly "drugged" goat fell to the floor and convulsively died, a *hunsì* lurched forward through the crowd and screamed. As if crazed by the death of the goat, she threw herself on the floor beside it and lay dishevelled on the floor, her body writhing and arms and legs flailing. She seemed out of contact with her surroundings and quite unconcerned with the possibilities of self injury. As she stumbled up from the floor her swinging arms brushed closely by the bystanders. She doubled up, her face contorted into a mask of agony, and kicked her feet wildly in all directions. Her head bobbed to and fro and she spit blood from a bleeding nose. She was constrained from further violence by two male assistants who gripped her arms tightly. In time she calmed down and only slowly seemed to regain her senses and composure.

According to the congregants this woman had become possessed by the spirit of the dead goat. The *hunsì's* behavior is indistinguishable from hysterical or dissociative behavior trends. This *hunsì* seemed less comfortable and less in control of her behavior during possession than did the *hungan* and unlike the *hungan* did not retain complete control of her consciousness. However she undoubtedly felt sufficiently comfortable in the role of the possessed to permit herself this self-abandonment.

POSSESSION OF A NON-ADEPT

Not infrequently persons several generations removed from a milieu of Voodoo belief and custom present what to believers are clearly the manifestations of possession. These people, unlike adepts who view such experiences as divine approbation, struggle against these manifestations. They refuse to "accept the call of their *loa*" according to Voodoo belief.

Of interest in regard to this phenomenon of possession outside of Voodoo circles is

the description of a clinical syndrome recently described in Haiti, a syndrome quite comparable to the Voodoo possession and labeled as such by Voodoo adepts.

L'antite clinique la plus fréquente est certainement la psychose aigue rappelant la description de la "bouffée délirante aigue": Installation brutale, confusion marquée, excitation psychomotrice avec conduite, dénudavve et agressive et souvent délire religieux hallucinations visuelles et auditives parfois; le tout de courte durée et ne laissant que peu on pas de deterioration (15).

This description corresponds almost exactly to that of a *hungan* who characterized this illness as a form of possession due to the individual's unwillingness to accept a *loa*. According to Sanseigne and Desrosiers, such patients initially diagnosed as hysterical often deteriorate into chronic schizophrenics after repeated episodes. The *hungan* too, stated that the course was usually short but that occasionally the patient remained "crazy as a punishment from the *loa*."

Of interest is that oftentimes this picture of *bouffée délirante aigue* is accompanied by paranoid elements with religious delusions based in general on the themes of Voodoo and associated with delusions of persecution. Here it would seem that though such individuals are still affected by elements of Voodoo culture which call forth marked anxiety reactions, they are sufficiently alienated from the peasant culture to be unable to use the cultural mechanisms of anxiety reduction through such recognizable role playing.

NATIVE THEORY OF INSANITY

According to popular belief, human beings are composed of the body, the big good angel (soul) and the small good angel (guardian spirit) (7). It is the big good angel which can leave the body without death occurring. This sometimes occurs during sleep. When an individual is ceremonially possessed, the *loa* supplants the big good angel in the head of the individual. Similarly a sorcerer can force the big good angel from the head of a victim using various magical means, with the soul of a dead person or animal causing the in-

dividual to lose his mind, his insane behavior being considered as the manifestation of the dead soul or animal spirit reincarnated in him. This is one of the main causes of supernatural *folie*. The other cause which follows from ignoring the dictates of a *loa* follows a similar pattern, the *loa* supplanting the big good angel and refusing to leave until the individual has accepted Voodoo, although this does not guarantee surcease of the illness.

In both instances of supernatural *folie* the mechanism of replacement of the big good angel by an outside entity producing insanity is identical with the replacement by the *loa* during ceremonial possession. This fact suggests a close tie between genuine *folie* and ritual possession. Further evidence suggestive of a close association between the two phenomena is the oft repeated and commonly acknowledged fact that the first indications that a man is receiving the call to be a *hungan* from a *loa* are indistinguishable from *folie*. If the individual does not accept the call of the *loa* he may be punished in the form of sickness or insanity. Further suggesting the tie is the fact that *hungans* are believed to be more prone to *folie* than anyone else.

DISCUSSION

We have here sketched out three different patterns of behavior and the native theory of insanity all of which share in common the Voodoo explanation of spirit possession. Certain features related to a predisposition to possession seem clear. Firstly, certain personality traits would seem to predispose an individual to possession phenomena. Secondly, early and long enduring observation of the possession of others makes for familiarity and acceptability of it. Lastly, practice and experience in becoming possessed makes for relative ease in negotiating the transition from the normal to the possessed state.

Furthermore, certain features of the syndrome seem clearly definable. Possession is usually characterized by a reduction of higher integrative functions such as articulate speech, social inhibitions and muscular coordination with a concomitant increase of reflex behavior such, as trembling, convulsive movements, muscle twitching, teeth

grinding and sucking movements. In many instances of possession, a sensory anesthesia exists allowing the individual to expose himself to noxious stimuli which normally would be harmful. Such phenomena have been explained in terms of hysterical or auto-hypnotic losses of perception. Injury does, however, often occur according to many Haitian physicians who frequently see burn cases following Voodoo rites (12).

The question arises on the basis of the examples cited as to whether the phenomenon of possession is a form of psychiatric disorder or merely a culturally acceptable patterned role playing. The *hungan* enters into a well-controlled, learned, complex and refined, self-induced trance, through auto-suggestion, probably on the basis of a personal propensity. In the *huns* it has the quality of a dissociative state precipitated and reinforced by a highly charged emotional atmosphere accompanied by an excessive barrage of sound, light and drug stimuli. The last type cited, that of *bouffée délirante aigue* would seem to represent a disorganizing psychotic illness in a culturally alienated individual. These three different explanations, although somewhat reasonable in themselves, fail to consider the unifying cultural aspects of this phenomena. If in Haiti all such behavior is explainable in terms of a single notion of spirit possession, then any discussion of possession should perforce include such a unifying cultural insight.

A concept of a culturally recognized and accepted way of "going crazy" would seem to best incorporate both sets of notions.³ From this viewpoint the role of the possessed is a culturally sanctioned and governed role, applauded in some circumstances (as in ceremonies), vaguely tolerated in other situations (as in market places), and frowned upon or condemned in other contexts and when differing in degree (as in forms of *folie*). It is a role offering opportunity for the expression of much repressed and suppressed feeling and thought. It

³ The concept of a culturally acceptable form of "going crazy" was suggested by Linton's remarks on "patterns of misconduct" (9) and Devereux's remarks on the borrowing from culture by genuinely ill people "the means for implementing their subjective derangement in a conventional way" (3).

provides the poor, downtrodden and oppressed peasantry with an opportunity to enact the parts of gods, becoming for brief periods lordly, omnipotent figures. For the possessed and for observers who can vicariously participate in the possession of others and share the good fortune of being in the company of the gods, possession is a cathartic and spiritually uplifting experience.

Indeed from an early age the peasant child is exposed to ceremonial possessions. He is made aware of the prestige of the *hungan* and the possessed. He sees how applauded are the possessed and learns of their good fortune. Observing the possessions of his elders, a Haitian peasant child grows up with the hope that some day he too will be possessed. As one well educated Haitian told me: "Everyone in Haiti is trying to catch a *loa*" (5). It is obvious that for the non-literate, uneducated peasant "catching a *loa*" by possession is far easier than it is for those more educated, intellectual and sophisticated.

We have presented evidence suggesting that possession is a learned pattern of role playing. The selection of roles and the appearance of the possession are seen as dependent on personal factors. The range of *loa* is so great that a great number of patterns are acceptable as *loa* possessions. This fact accounts for the recognition of the possession in non-Voodoo adepts such as Maya Deren and for the frequent confusion of hysterical or psychotic behavior with possession. Although selection of this role suggests that the role is compatible with the possessed person's personality, it is not in itself sufficient evidence for making a clinical psychiatric diagnosis. The hysteric or psychotic cannot however control the onset, the extent and the completion of his uncontrollable behavior as can the possessed.

The impromptu nature of ceremonial behavior further suggests the conscious role playing aspects of possession. There is frequently much personal imaginativeness expressed by the possessed and much interplay with the congregants who join in the merrymaking, solemnity or other prevailing moods of the ceremonies. The same individuals are possessed year in and year out

by the same *loas*. Occasionally an individual is possessed by several different *loas* in the same evening but this too is characteristic for the specific individual. Each adept is identified with a specific *loa* or behavioral pattern from the time of his or her first possession and it is truly rare for an individual to become possessed out of context, possession being considered expected behavior for ceremonials only.

According to most natives the *loas* prefer "to mount" people who are most like themselves. Thus aggressive individuals are mounted by stormy *loas* and passive mild mannered individuals by gentle and friendly *loas*. Occasionally the opposite takes place as if by "reaction formation." Metraux in his recent work has suggested a number of points which argue against the dissociative quality of the possessions (13). He has pointed out such things as the retention of memory of events during the possession, the self protective caution against bodily harm during possession and the expression of feelings by the *loa* consistent with the possessed person's personal attitudes towards others.

CONCLUSION

Possession as seen in Haiti is a culturally sanctioned, heavily institutionalized and symbolically invested means of expression in action for various ego dystonic impulses and thoughts. It provides a behavioral outlet for much of the impoverished and suppressed peasantry of Haiti. For those who are Voodoo devotees it provides legitimized public roles for private repressed impulses and needs. It serves different needs for different people. For the *hungan* it provides a flexible and recognizable set of ideas which makes possible the translation of private needs into a publically acknowledged religious chosenness. For the *huns* it is an opportunity for the expression of behavior and emotions. The last type of individual "possessed by a *loa*" would seem to be unable to channel his uncontrollable impulses into such an acknowledged and useful role for various reasons, usually ones which have alienated him from the main-springs of the Voodoo cult.

In essence, possession is a useful and culturally sanctioned form of role playing

which serves public as well as private needs and is legitimized only insofar as it occurs in the context of Voodoo and in the correct proportions. For those who are out of touch with Voodoo or for those whose possessions last longer than the ceremonies warrant it is not legitimized and is considered a form of *folie*. The similarity of possession phenomena and psychiatric illness plus the identical explanations for *loa* possession and supernatural *folie* suggests a strong relationship between the two and adds weight to our formulation of ritual possession as an acceptable form of "going crazy."

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PATIENT FREEDOM : A VIEW FROM MICHIGAN

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In the current practice of hospital psychiatry the issue of patient liberty is a pressing and challenging one. The Ypsilanti State Hospital, Michigan, organized a committee under the direction of the superintendent to deliberate and act upon this matter. The crucial concern of this group was that many advances in psychiatry as well as in related fields have forced us to take another look at our administrative policy regarding personal freedom(9).

The state hospital has a long tradition of utilizing administration in the therapy of its patients(2). In the history of the last century one is impressed by the good works of the moral therapists(5). This tradition more recently has been carried on by such men as Myerson(17), Yoder(34), Stanton and Schwartz(24), Wilmer(31), Snow(22), Rees(21), and Jones(10). We have come to see that the milieu in which the patient lives and, in particular, his emotional interrelationships, constitute the hospital restitutive process(16). The committee formed was multidisciplinary and had the obligation to call upon all the resources of this large modern hospital to carry out its functions.

In the past the philosophy of the hospital had been to grant ground liberty to nearly one-third of its patients. Decision to award of this privilege came from the morning medical and nursing staff meetings' consideration of a request by the patient's physician. Home visits were initiated by the relatives but were also considered by this staff. Intermediate areas of freedom were handled on a fairly informal basis, referring to the patient's physician for individual decisions.

A study(7) of the hospital discharge records revealed a high degree of personal caprice in the outward movement of patients to the community. Also, pressure from the increasing demands of our urban area

forced us to consider some method of speeding the turnover of the hospital population. We were to find some system which would effect more carefully planned patient movement but still maintain and increase the therapeutic character of our milieu.

An extensive survey was made of literature dealing with patient freedom in state hospitals(32, 3, 30, 29, 4, 25). Some writers felt that an open hospital was desirable; however, their reasons lay in humanitarian and not therapeutic ideals. Others found advantages in the closed door arrangement. The committee was hopeful that it could find some way that would give the best of both systems, and avoid damage to the milieu structure already developed in our hospital. We contacted 16 other large state hospitals whose problems were similar to our own. All of the hospitals contacted seemed impressed with the need for a solution better than simply opening or closing the doors. All of them had found some partial solution, but were not completely satisfied. Two hospitals in Ontario, Canada, tended to have views comparable with those prevailing in Michigan. Hospitals in New York and California stressed the open features while those in Pennsylvania, Michigan, and Illinois tended to be more conservative. One hospital in Minnesota strongly supported the open ward philosophy. However, the use of open hospitals brought some very readily admitted problems. There were difficulties in training the staff, in keeping patients in therapy, and a large increase was needed in the facilities provided for patients with freedom. Those not embarking on an open hospital operation had problems of limiting patient freedom more than was necessary; they were being forced to find partial solutions for individual patients who really needed an open hospital. Our group was impressed with the reply from the Menninger Foundation, whose philosophy is that freedom should be given as a prescription for therapy.

After considering this problem for a period of months we embraced neither the

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open nor the closed door philosophy. We began to plan for a milieu which would give our patients experience and practice in social living; if we should open our doors they would open to a better adjustment for the patient in the community. In planning this we established 4 major principles.

First was reinforcement of the doctrine already current in the hospital practice that socially responsible behavior was required from the patient. Secondly, the patient's governing body, the patient-council, was to be integrally involved in demanding reasonable conduct from a person receiving liberty. Thirdly, the area of local control of our liberty program required extension. This in practice would give the ward staff a larger number of techniques by which to foster useful social behavior as well as a significantly responsible task for patient-council assistance. Fourthly, we considered our American socio-political structure, which is a composite of personal responsibility, local control and group action for many personal goals. This process is an impelling civilizing factor in our society. Staff-patient organization could make a structure rewarding behavior by modelling such a system. This was effected by the use of a multiple card pass system giving graduated amounts of ground freedom according to individual need.

The types of such cards recommended were: *a.* Therapy card; this card would be granted at the ward and patient-council level. Considerable arbitrary restrictions would be placed on it, but it would be available to the patient upon admission. As his social responsibility increased, further freedom could be considered. *b.* Ground privilege card; this would offer to a suitable patient essentially an open hospital setting, even permitting the use of keys in closed parts of the hospital. Freedom outside the hospital would be considerably restricted. *c.* Honor card; this card would permit an almost unlimited degree of freedom in an effort to rehabilitate the patient. The hospital would be a stable base of operation, which could be used as a day hospital, night hospital or a combination of these as the patient's rehabilitative program necessitated. This card would be limited

temporarily to destroy its reward value for simple hospital adjustment.

DISCUSSION

Placing this program into effect was a prolonged process in a large organization. Of the one thousand staff nearly all were consulted. We did this by personal contact, talks over coffee, in hospital publication of ideas, full dress staff conferences, and briefings of staff by the executive group. Finally, we published a manual giving a complete summary of our work. This careful preparation led to relatively easy acceptance of the plan. When the time came for official inception, active agitation had been initiated by staff to hasten formal executive approval. From the beginning of the operation of the program a major complaint was that it had not gone quite far enough; surely we could do more than this.

Current social psychiatric literature would confirm this major complaint. However, we were very mindful of making only one solid advance. It would be unheeding to plunge without consideration of the hospital as a community with many diverse social forces. Just as unheeding would be to forget the serious import of the concept of mental disorder as a product of social structure. Our attempt was to present a compromise permitting further social development. In creating this portion of a therapeutic milieu we were gratified by the ability of staff-patient groups to seize upon the concept of local control. The best example was a partial opening of geriatric wards simply by granting cards to all patients on the ward.

Perhaps the greatest finding coming from this study has been that patient freedom is only one portion of a total hospital milieu. For patient freedom to be meaningful, the hospital must supply an area in which the patient learns to live normally. Our total program will not be effective until we have individual decision of each patient's individual day with the patient an active participant in decision. Committees are currently working with this problem.

SUMMARY

A statement of policy regarding patient freedom is given by a Michigan hospital. It

is the result of long and considered planning. We have considered both the open and the closed door concepts. In our opinion both present major defects. The basic defect of the open door is "open to what?" or "for what purpose?" The defect of the closed door is that it is not only inhumane but also is not so useful in getting a patient well. We are now attempting to institute a policy that will hopefully combine elements of social living into therapy and rehabilitation. To date, in our setting, the policy appears reasonably successful.

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PSYCHIATRIC DISORDERS AND MYXEDEMA¹

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Alterations in mentation have been recognized as characteristic of myxedema since Gull's original description in 1874(1). Delirium, depression, paranoid delusions, and hallucinations were reported as occurring in various combinations by the Committee on Myxedema of the Clinical Society of London in 1888; all their 109 advanced cases evidenced slowing of thought processes and 50% had at least one psychotic manifestation(2).

During the succeeding 60 years case reports of myxedematous psychosis emphasized the clinical syndromes and differential diagnosis(3-6), pathologic picture(7), occurrence after exophthalmic goiter(8) or thyroidectomy(9), hallucinations(10), and therapy(11). In 1947, Asher presented his classic "Myxedematous Madness"(12). The previous articles and 1 fictional reference(13) served to stimulate Asher's interest; he reported his personal experience with 13 examples of this malady which he had encountered in a 2½ year period, stressed their clinical similarity to "the so-called functional psychoses," and speculated that psychiatric hospitals were populated with many unrecognized psychotic hypothyroids. Systematic evaluations of all patients in large psychiatric hospitals identified only an occasional instance of such error(14); so that Asher apparently overestimated the incidence of the disease by reason of unique experience.

Subsequent studies have been primarily concerned with the effects of hypothyroidism on central nervous system function. Scheinberg, *et al.*, observed cerebral metabolic deficiencies in myxedema(15). Brown-ing, Atkins, and Wheeler marshalled the clinical and electroencephalographic evidence that myxedematous psychoses are of

a delirious nature(16). Reitan found intellectual functions uniformly impaired in myxedema(17); Money reported quantitative evidence of "organic" changes on psychologic testing of patients with hypothyroidism(18).

Most recent reports of psychoses in myxedema have appeared either in the general medical or neurologic literature, and indicate that they are clinical entities of a delirious nature differing little in import from myxedematous coma, heart disease, or neuropathy. The current literature on myxedema psychosis seems to indicate that this condition is readily recognizable as a delirium, that psychiatric care is necessary only when the patient's behavior requires closed ward management, and that thyroid extract plus individualized endocrine and cardiac attention constitute the only specific treatment.

Our recent experience with the 3 patients described in detail in this report has demonstrated to us that the psychiatrist must be always on guard that patients may appear clinically depressed or delirious with few, if any, of the stigmata of the underlying myxedema. In addition it seems evident that the mood, behavior, and thought disturbances of hypothyroidism which may persist after adequate thyroid substitution can respond to psychiatric somatic therapy.

Case 1.—Mrs. A. W. (St. Louis City Hospital #M-107779), a 57-year-old housewife, was hospitalized April 11 through Dec. 31, 1959. During the preceding 3 years her family had noted a gradual development of lethargy, weakness, marked irritability, loss of interest in all former activities, retardation, anorexia, constipation, 30 lb. weight loss, crying spells, confusion, inability to concentrate, sleep disturbance, total body alopecia, and auditory hallucinations of a threatening nature.

From Nov. 17 to Dec. 17, 1958 she had been in another hospital where physical examinations, routine laboratory work, electrocardiogram, chest and skull x-rays, and lumbar puncture were reportedly normal. No protein-bound iodine or cholesterol was obtained. Diagnoses were involutional psychotic depressive reaction, alopecia areata, umbilical hernia, and ichthy-

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osis; accordingly, a course of 10 electroshock treatments was administered which reportedly resulted in a significant improvement in activity, appetite, and interests.

These improvements lasted only a short while, however, and the patient was brought to the City Hospital for further evaluation. There was no past or family history of psychiatric or metabolic illness. The patient had had 5 normal deliveries and had reached menopause at age 45. Physical examination demonstrated total alopecia; dull-bloated facies; myxedema of tongue, face, and pretibial regions; prolonged relaxation phase of myotatic tendon reflexes; cardiomegaly; and inability to stand. She was disoriented for time and place, markedly retarded, and deludedly depressed. Immediate diagnosis of myxedema with consequent organic brain syndrome with depressive symptoms was made clinically.

The hemoglobin was 10.2 gm. per 100 ml., the red-cell count was 4.28 M per cm., the hematocrit was 40%, and the white-cell count was 6200 with a normal differential. The serologic test for syphilis was negative. Urinalysis was normal. Serum carbon dioxide, chloride, potassium, sodium, calcium, phosphorus, and alkaline phosphatase were within normal limits. Fasting blood sugar, non-protein nitrogen, total and fractional proteins were normal.

Protein bound iodine was 0.7 micrograms per 100 ml., cholesterol was 560 mg. per 100 ml., radioactive iodine uptake was 4.3% in 24 hours and the basal metabolic rate was -38%. Urinary excretion of 17-ketosteroids was 3.3 mg. per 24 hours and of 17-hydroxysteroids 0.3 mg. per 24 hours. The electrocardiogram demonstrated low voltage in all leads. Chest films revealed generalized cardiomegaly. Lumbar puncture returned clear fluid under normal pressure, without cells, with a protein of 48 mg. per 100 ml., and a chloride of 140 meq. per L. No Werner test for thyroid response to thyrotropin was done.

Treatment with thyroid extract was begun on the fourth hospital day; initial dosage was 1/8 grain per day, and this was increased rapidly so that by the tenth week she received 3 grains/day. At this time the protein bound iodine was 4.9 mcg. per 100 ml., the cholesterol was 272 mg. per 100 ml., and the basal metabolic rate was -14%. Urinary excretion of 17-ketosteroids and 17-hydroxysteroids rose to 14 and 10.3 mg. per 24 hours, respectively. By the fourteenth week the protein bound iodine was 6.4 mcg. per 100 ml.; the cholesterol was 239 mg. per 100 ml.; the electrocardiogram and chest x-rays had returned to normal. The physical manifestations of myxedema and the dis-

orientation had also cleared by the third month; however, she remained markedly depressed and retarded—so much so that it required 2 hours to perform the mental status examination. Methylphenidate hydrochloride (Ritalin), phenelzine dihydrogen sulfate (Nardil), and imipramine (Tofranil) were administered without improvement; then a course of 12 ESTs was given during the seventh hospital month. Improvement was rapid; the patient was entirely well at discharge. She was maintained on 3 grains of thyroid daily and was well at follow-up 4 months after discharge.

DISCUSSION

The depressive syndrome was so marked in this case that other physicians treated her initially with a course of 10 ESTs. Five months later the diagnosis of myxedema with secondary chronic brain syndrome was made on clinical grounds, and confirmed by thyroid function tests.

Both the thyroid deficiency and the disorientation were corrected by substitution therapy; however, after 5 months of euthyroid state there had been no alteration in the retarded depressive syndrome. A course of 12 ESTs resulted in complete clearing of the retarded depression. This response has been reported in organic depression persisting after elimination of bromide intoxication (19); and there is a general statement concerning such responses in myxedema in the *American Handbook of Psychiatry* (20) without data, however, or textual reference. This case would appear to be a specific documentation of the effectiveness of EST in persistent psychiatric manifestations after the myxedematous patient becomes euthyroid by substitution therapy.

Case 2.—M. G., a 59-year-old white widow, was admitted to Renard Hospital on Dec. 19, 1959 and was discharged Mar. 15, 1960. She and her family maintained that until 8 months prior to admission she had been "an entirely well, happy and very active woman." At that time she began to feel nervous, anxious, and depressed. She felt guilty and was convinced that she had committed some terrible wrong; when an oil well was brought in on her unproductive 50-acre farm she felt "even more hopeless." She developed severe anorexia with nausea and some dysphagia at food ingestion; she lost approximately 35 pounds in the 6 months prior to admission. Severe constipation required "mineral oil nightly in order to have

bowel movement even twice a week." It required large doses of barbiturates to enable her to sleep 2 to 4 hours nightly; in spite of this medication she awakened very early with symptoms of agitation, overwhelming fear and hopelessness, visual blurring, palpitations, tremor, "smothering," and inability to concentrate. Retardation became so marked that she "spent as much time as possible in bed," frequently 20 hours a day; she had lost interest in all her previous affairs and complained of feelings of profound weakness. She also was preoccupied with a "band of numbness around the waist." Ten days before referral she had unsuccessfully attempted suicide by ingesting phenothiazine tablets.

Six months prior to admission she had been hospitalized elsewhere for 1 week. Her complaints were then of nervousness, depression, sleeplessness, and loss of interest. Workup revealed a small asymptomatic hiatus hernia and fluctuating glycosuria which disappeared as she lost weight rapidly.

The patient and her relatives maintained that she had been oriented and alert throughout her illness.

Two years earlier Mrs. G. had been hospitalized for acute cholecystitis and recovered completely following cholecystectomy. There was no other past history of hospitalization, significant illness, or medical attention.

The patient's father was a lifelong alcoholic who died in his 70's; her mother died at 73 of a cerebrovascular accident. Family history of other psychiatric or endocrine disorder was denied.

Physical examination revealed a pale, wasted, graying, agitated, depressed female who appeared at least 15 years older than stated age. Vital signs were normal. Her facies seemed less wasted than extremities; the skin was pale, dry, of normal turgor, and hung from her extremities in great folds. Her voice was somewhat hoarse, of normal pitch and her hoarseness seemed to clear after drinking water. There was moderate kyphosis and increase in anterior-posterior chest diameter but heart and lungs were otherwise clear. Mrs. G. was able to move about unaided; but she evidenced a shuffling-propulsive gait, gross tremor, mask-like facies, drooling and adiadokokinesis. There was no cogwheeling rigidity or abnormality of myotatic deep tendon reflexes. On rapid rising from recumbent position she complained of faintness and dizziness; at these times blood pressure fell from a systolic of 140 and a diastolic of 80 to a systolic of 60 and a diastolic of 0.

Careful mental status examination revealed Mrs. G. to be well oriented. She was tearfully

depressed and admitted constant suicidal thoughts. Her fund of general information, recent and remote memory, insight and ability to reason and abstract were normal. There was no evidence of confusion, thought disorder, hallucinations or delusions (other than depressive ones).

Laboratory determinations revealed normal blood counts and urinalysis. The serologic test for syphilis was negative. Blood urea nitrogen was 15 mg. per 100 ml. Fasting blood sugar was 213 mg. per 100 ml. Protein bound iodine was 2.8 microgm. per 100 ml. Cholesterol was 452 mg. per 100 ml. Twenty-four hour radioactive iodine uptake was 7.7% before and 6.9% after administration of 10 units thyrotropin daily for 4 days. Basal metabolic rate was -9%. Serum bilirubin, cephalin-cholesterol flocculation, thymol turbidity, total protein, albumin-globulin ratio, calcium, phosphorus, alkaline phosphatase, potassium, sodium, chloride, and carbon dioxide combining power were all normal. Lumbar puncture was normal but for a cerebrospinal fluid protein of 147 mg. per 100 ml.

Skull x-rays revealed calcifications of the internal carotids bilaterally; chest x-ray demonstrated only healed fibrocalcific tuberculosis of the left hilum and left lung. Cervical, thoracic, and lumbar spine films demonstrated osteoporosis, advanced osteoarthritic lipping with some cervical bridging and encroachment on root foramina, and generalized calcification of major vessels. Electrocardiogram showed low voltage throughout all leads. Electroencephalogram demonstrated "7-9/second basic resting occipital frequency, reflected anteriorly; somewhat slowed for age 59."

The initial impressions were that Mrs. G. was psychotically depressed, that she had some residual phenothiazine intoxication with parkinsonian features. On the third hospital day however, she became quite confused and was thereafter, disoriented for time and place at least a portion of each day until the protein bound iodine became normal. Shortly after this alteration in her mental status was noted the protein bound iodine and cholesterol determinations were available and the proper etiologic diagnosis of myxedema became evident.

Benzotropine methane sulfonate (Cogentin), 1 mg. b.i.d., had been administered for the parkinsonism during the 3 days prior to the onset of the confusional state. The parkinsonism improved markedly under this medication and remained so even though the drug was discontinued immediately.

Thyroid extract was begun in a dosage of $\frac{1}{4}$ grain daily upon completion of the Werner

test; this dosage was increased weekly by $\frac{1}{4}$ grain increments until daily dosage was 2 grains at which time the protein bound iodine was 6.0 microgm. per 100 ml. and cholesterol was 310 mg. per 100 ml.

Fasting blood sugar remained in the range of 235-300 mg. per 100 ml.; urine sugars were negative until thyroid substitution began at which time glycosuria of trace to 3+ were irregularly found on regular quantitative determinations. Treatment with 1.5 gm. tolbutamide (Orinase) daily resulted in complete disappearance of glycosuria; during the 4 week period prior to discharge the fasting blood sugar was found to be 160 mg. per 100 ml., with 234 and 104 mg. per 100 ml. found at 10 a.m. and 2 p.m. respectively.

During her hospital course the patient gradually became oriented and alert, but developed a perseverative ruminative concern with numerous somatic complaints attributable to her generalized arthritis, and generalized arteriosclerosis. For example, she would complain repeatedly of back ache, chest pain, extremity pain, dizziness with accompanying postural hypotension and anxiety over all these symptoms. Nevertheless her depressive delusions cleared. She required constant encouragement and assistance in occupational therapy and personal toilet. She was reluctant to leave the hospital and its well regulated supportive schedule. She denied depressive feelings concerning her return home, but it was obvious that she would have preferred to stay in the hospital indefinitely.

On follow-up evaluation via phone calls to relatives 6 months after discharge her condition was essentially unchanged; that is she was fully oriented, alert, and much more active. She had never returned to her old active cheerful state, however, and continued with multiple somatic complaints. Repeated attempts to have her return for more specific re-evaluation were unsuccessful.

Discussion of this complex case is in large measure speculative. It seems clear, however, that the onset of her illness was approximately 8 months prior to her hospital admission, that depressive symptoms appeared almost immediately, and that she developed manifestations of delirium only after hospitalization. Her confusion and disorientation appeared only after 3 days treatment with methanesulfonate, a drug which has been known to induce delirium in others (21). Serious clinical consideration of myxedema occurred only after the delirium was

recognized. The diagnosis was made on the basis of laboratory data. Treatment with thyroid extract corrected the myxedema, the delirium, and the severe depressive delusions; but she continued to complain perseveratively of multiple somatic complaints, especially those related to her arteriosclerotic postural hypotension and generalized osteoarthritis. These persistent complaints plus her failure to return to her premonitory cheeriness have led us to wonder whether a short course of electrotherapy might not produce the additional therapeutic improvement described in case 1; thus, it is unfortunate that we have not been able to obtain more adequate follow-up.

Case 3.—H. R. L., a white housewife aged 42, was admitted for the second time to Renard Hospital on Dec. 28, 1959 and discharged Feb. 5, 1960.

In Oct. 1945, she had consulted her private internist for symptoms of depression, crying spells, hyperventilation, multiple phobias including fear of insanity, feelings of hopelessness and anergia, anorexia, sleep disturbance, and ruminations concerning separation from her husband in Naval Service. Physical examination was entirely normal. Impression was "psychotic or psychoneurotic change." She was treated with elixir of phenobarbital and in 2 months was recovered.

In Feb. 1947, she complained of easy fatigability, had a lemon tinted skin as positive physical finding, and evidenced a mild anemia (hemoglobin, 9.5 gm. per 100 ml. and red cell count, 3.5 M per cm.) which responded promptly to iron-liver extract therapy.

During continued follow-up she repeatedly described symptoms of nervousness, dizziness, weakness, cold sensitivity, nausea, and blurred vision. In Mar. 1949, a complete evaluation was stimulated by a thickened, scaly change in the skin; her hemoglobin was 11.5 gm. per 100 ml. with slight macrocytosis (mean corpuscular volume was 107 cubic micra), the bone marrow was normal, the icterus index equaled 25, urinalysis was normal, non protein nitrogen was 40 mg. per 100 ml., and the basal metabolic rate readings were -12 and -16%. No cholesterol was obtained. A diagnosis of hypothyroidism was made and thyroid extract was begun; initial dosage was 3 grains per day, and in 2 months she felt "entirely well."

The patient had maintained herself on 2 grains of thyroid per day until her first Renard Hospital admittance of Mar. 1, 1958 through Mar. 28, 1958, when she gave a 2 week history

of anxiety, worry, anorexia, sleep disturbance, depression, agitation, irritability, psychomotor retardation, and crying spells. She had quit her job and felt her life was hopeless. Physical examination was unremarkable but for the mental status which demonstrated a sad, retarded, tense, anxious, tearful woman who exhibited a fear she had become insane. She was oriented, with normal memory and abstraction, but had some difficulty concentrating. Urinalysis, complete blood counts, cardioli-
pin, electrocardiogram, chest and skull x-ray films were normal. The impression was psychotic depression, and she responded to a course of 6 electroconvulsive treatments. At discharge, her depression had cleared; thyroid was discontinued after a basal metabolic rate of +26 and +30% was obtained. Prior records were not available at that time; protein bound iodine and radioactive iodine uptake were not obtained.

The patient remained essentially well for about 1 year; then, about 8 months prior to the second Renard Hospital admittance she gradually became "less peppy, and then rundown and weak." She became anorectic and lost approximately 15 pounds; she also became quite constipated, anergic, exhausted, and unable to carry on her usual activities. Her memory gradually deteriorated and she complained of difficulty concentrating. Her husband considered her to be again depressed. She had complained of irregular menses, and seemed convinced that thyroid resubstitution would correct this as well as the anergia. On the day of admittance she became confusedly paranoid and called the police to protect her from the family whom she thought were "getting rid" of her. The past and family history was otherwise noncontributory. Physical examination revealed classical features of myxedema: thick, coarse hair; sparse eyebrows; deep-hoarse voice; thick-scaly skin; and markedly prolonged relaxation phase of the uniformly brisk myotatic reflexes. Vital signs were normal. On mental status she was oriented as to time-place-person but seemed confused as to the role of the examiners; her memory was impaired, but evaluation was not precise due to her inability to concentrate as well as her marked retardation. There was no apparent mood depression. Laboratory evaluations revealed a hemoglobin of 8.9 gm. per 100 ml., white cells numbered 8700 per cubic mm. with a normal differential count. Urinalysis revealed a trace of albumin and a few white cells. Residual urine was 100 cubic ml. and produced a luxuriant growth of *E. Coli* sensitive to tetracycline *in vitro*. Serum cardioli-
pin was nonre-
active, cholesterol equaled 448 mg. per 100

ml., protein bound iodine was 1.9 microgms. per 100 ml., fasting blood sugar was 75 mg. per 100 ml., blood urea nitrogen equaled 12 mg. per 100 ml., radioactive iodine uptake was less than 1% in 24 hours. Chest x-ray was normal. Electrocardiogram demonstrated low voltage throughout all leads. Treatment consisted of simultaneous administration of thyroxin and electroshock. The thyroxin was given first in 0.1 and then increased to 0.25 mg. daily dosage; electroconvulsions were administered 3 times per week for a total of 8 treatments. Activity increased markedly within 2 weeks; and the protein bound iodine rose to 6.1 microgms. per 100 ml. after 1 month. The urinary infection cleared with oral tetracycline; and iron-multiple vitamins were employed as adjunctive therapy. She was discharged on 0.25 mg. thyroxin daily and was well 3 months later.

DISCUSSION

The disappearance of Mrs. L.'s psychiatric syndrome without thyroid medication in 1945 and the response of the 1958 exacerbation (acquired while on 2 grains of thyroid per day) to electroconvulsive treatments suggests very strongly that this woman's previous psychiatric illnesses were probably manic-depressive reactions, unrelated to her hypothyroidism. Treatment of the latest psychosis with thyroid alone, initially, would have been preferable; however, her physician's experience with her in 1958 led him to utilize simultaneous electroconvulsive treatments. The possible resistance of depressed affect to thyroid (as in case #1) could not, then, be observed; but complete recovery required only 30 days.

CONCLUSIONS

Asher stated that in "myxedema madness" the physician's proper function is to recognize the hypothyroid state (12). Although he "made the diagnosis on the appearance of the patient and not on mental symptoms—you don't diagnose typhoid by the type of delirium," he also emphasized that it is often exceedingly difficult to make an accurate diagnosis for "the signs and symptoms are not specific to myxedema and any or all may be absent in a particular case."

We have presented clinical reports on 3 unusual myxedematous patients. The first remained retarded and depressed after a 5 months period euthyroid and fully oriented as a consequence of thyroid replacement;

a course of electroconvulsive treatment dramatically cleared her syndrome and she has remained well. This further documents the report noted above of such success with electroconvulsive treatment(20); and we advocate its trial in other patients with persistent psychiatric symptoms after return to a euthyroid state.

The second patient presented as a classic depression in a clear sensorium but became disoriented after 3 days of methanesulfonate therapy for phenothiazine intoxication. She improved markedly with thyroid substitution but persisted in multiple somatic complaints; we have been unable to obtain personal follow-up re-evaluation in order to ascertain the advisability of electroconvulsive treatment for persistent retardation and somatic ruminations.

Case 3 had an apparent manic-depressive depression in 1945 which cleared spontaneously; she developed hypothyroidism in 1949 and was treated with 2 grains thyroid daily until 1958 when a second severe depression cleared with ECT. Following this hospitalization thyroid was discontinued and 18 months later she returned with a myxedematous depressive syndrome which responded quickly to simultaneous administration of thyroid and electroconvulsive treatment. We would have preferred to have reserved electroconvulsive treatments for residual depressive manifestations; however, the clinical response to simultaneous treatment was exceedingly rapid.

SUMMARY

A brief survey of the literature on psychiatric symptoms in myxedema is followed by 3 case reports demonstrating that "Myxedema Madness" may present as seemingly specific organic or functional psychoses, and that psychiatric care may prove vital in the management of these patients. The successful use of EST in psychiatric symptoms resistant to thyroid substitution in myxedema

is reported. The further evaluation of EST in this circumstance is suggested.

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NURSING WARD THERAPY AS AN ALTERNATIVE FOR RESTRAINT

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A century ago, John Conolly showed that all psychotic patients can be treated safely, with good clinical results, without any form of physical coercion. Furthermore his nursing techniques were fully described as early as 1839(2). Although such transparent rationalizations as the claim that restraints are sometimes beneficial(3, 7) would not be found in current writings, a traditional notion has been tacitly accepted that mechanical restraints are indispensable tools, even if less desirable ones, for the protection of the patients themselves. It is said that they are still needed because other therapeutic measures are inadequate in ward emergencies. A recent revival of interest in abolishing restraints (1, 5, 6, 11, 12, 15) points up the dearth of technical information that could be put to use in actual ward practice.

In this report we describe the nursing techniques as they were evolved in the process of eliminating restraints in an experimental setting. Our first concern was to see whether mechanical controls could indeed be completely abolished on a ward accommodating severely disturbed patients under the typical conditions of service. Must additional nursing care or perhaps new types of psychiatric care be added? What alternative measures such as chemical sedation are required? What practical problems among personnel accompany such a deep change in approaching assaultive patients?

The 65 male patients on our study ward were the most refractory, agitated, combative, and suicidal patients in a 1600-bed Veterans Administration psychiatric hospital. The day shift team includes 1 psychiatrist, 1 clinical psychologist, 1 social worker (part-time), 1 recreation leader, 3 nurses, and usually 10 aides (nursing assistants). Except for nurses and aides, the other staff members were responsible for another 65-bed unit located on the first floor of the same building. Intermittently, graduate nurses were active on the ward as part of an advanced educational program. No ad-

ditional personnel were assigned and no additional funds were requested.

A program of "Nursing Ward Therapy," stressing on-the-spot support and guidance of patients by nurses and aides(13), had already been established on this ward. In Nursing Ward Therapy as practiced here the following aspects are most prominent and indispensable: 1. The nurse is physically present in the dayroom with her patients and accompanies them to other places; 2. The nurse responds to the patient's momentary needs, establishes rapport, and judges daily her patient's mood and receptiveness. The framework of the nurses' activities is not scheduled; spontaneity and improvisation are expected. She listens to patients, talks, walks, works, and plays games with them. The aides are encouraged by example and by consent to imitate the nurses' methods of handling ward emergencies. This approach to the patient is designed not only to reduce tension on the ward but also allows a maximum of contact with healthy people skilled in psychiatric treatment. It is assumed that the patient will emulate the nurses and aides and will relearn some of the normal ways of getting along which have been dislodged by psychosis. It should be noted that the ward psychiatrist and psychologist spend much of their time in the dayroom in unstructured contact with patients to create a therapeutic ward climate.

No formal indoctrination in special techniques was offered the nurses or aides but continual encouragement was given by the ward psychiatrist and psychologist, both in periodic conferences and daily informal meetings. The principles of the program were explained to the evening personnel and periodic reports were received from them. Graphs and tabulations of restraint usage were prominently posted in the nurses' office and served as a basis for discussion and a means of motivating the nurses.

The project was planned in 3 phases:
1. The aim was to involve the nurse directly

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in resolving ward emergencies with a minimum of physical control; 2. The focus was shifted to the aides and they were induced to rely on their nursing skill more than ever before; 3. An attempt was made to handle ward emergencies entirely without mechanical control or sedation, relying exclusively on Nursing Ward Therapy techniques.

A consistent routine for handling assaults and sudden violent outbursts was introduced as obligatory for the first 6 months (Phase 1). The main feature was an immediate interview by the nurse to decide whether the patient is to remain in restraint and whether a sedative is also necessary (in view of the type of patients, it was an accepted practice for the aides to apply cuffs and belt in extreme emergency before the nurse arrived). The measures decided upon would then be endorsed by the ward physician at the earliest opportunity. The nurse inquired into the circumstances and the likely causes of patient's disturbed states, and instructed the aides as to further management. The aides then could apply the customary restraint (cuffs and belt) in extreme emergency as before. This was done to avoid imposing a sudden change in the aides' traditional role. The Director of Professional Services met with the ward nursing staff to indicate management's interest and to assure the aides that they would not be held responsible for injury to patients caused by failure to use restraints. In the second phase, restraint could not be applied without the nurse's specific order for each instance, even in cases formerly considered exceptional. One month later the third step was added; the nurse was urged to refrain from giving emergency medication. In fact, every instance of restraint had to be reported in a special memorandum to the ward psychiatrist, describing the circumstances and justifying the need.

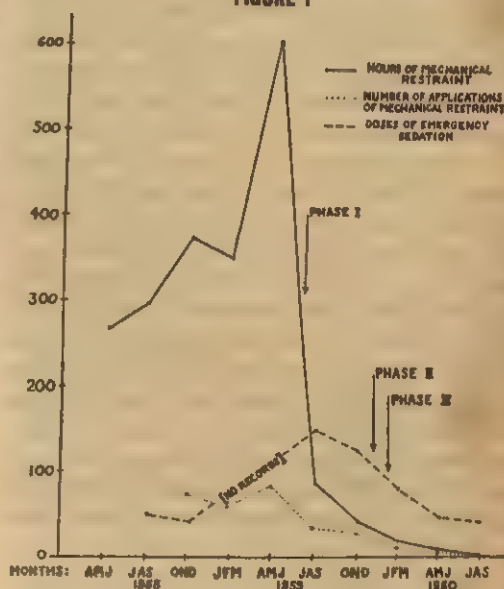
RESULTS

The use of mechanical restraint, measured in number of applications and in total hours per month declined sharply immediately after the project began. For example, restraints were applied an average of 58 times per month for the preceding 6-month

period while during Phase 1 the average dropped to 21 applications. However, the nurses began to use emergency medication quite freely. During a 4-month period before the study, the monthly average of emergency sedation was 38 doses, while during Phase 1, the monthly average dosage rose to 114 doses.

In Phase 3 (8th through 15th month), when attention was turned toward reducing sedatives, dosage dropped to the pre-experimental monthly average of 37.5. This level remained stable for the last 6 months of the study. At the same time the use of restraints continued to decline until it was negligible. Thus through successive stages, mechanical restraint gave way to chemical sedation and this in turn was apparently replaced by Nursing Ward Therapy. A graph demonstrating the changes in restraint usage is reproduced in Figure 1.

FIGURE 1



During the entire period under study the number of altercations, new admissions, transfers to the ward, number of personnel, and dosage of routine medication dispensed remained essentially unchanged. On this ward ECT is used only exceptionally, in brief courses, and never as a maintenance measure. Tranquilizer drugs are prescribed in very conservative doses; for example, acutely disturbed patients typically receive 300 mg. chlorpromazine daily; in extreme

cases dosage may reach 800 mg. for a few days.

To understand better the reasons for patients' disturbed behavior and also as an educational exercise, the nurse's notes and memoranda required for each application of restraint were examined and causes of patient's distress classified. A number of categories of patient or situations requiring restraint were conspicuous. Most commonly assault was prompted by auditory hallucinations. A more complex, but typical situation was seen in homosexual panic states, where patients struck out in response to either hallucinations or provocative, coarse comments by other patients. Rage reactions, seen in brain damaged patients, were the only cases constituting actual physical danger. In one or two cases restraint was applied to protect the patient's own surgical dressing. Other patients were repeatedly aggressive, mainly to gain attention, and often as a bitter protest against an incapacity recognized through partial insight into their predicament. Although only a few patients could be so classified their outbursts were most repeated. Since they demanded constant attention and reassurance, and were inclined to intellectualize, this group was the most taxing for the nursing staff. It was discovered that although these patients were very annoying and frequently attacked any staff member, they were in fact noticeably quite accepting of Nursing Ward Therapy. Restraint of any kind was never applied to them once they were understood. Finally, and in spite of fairly intimate knowledge of patients, there remained a sizeable group whose unprovoked assaults remained unpredictable and inexplicable.

By the end of Phase 3, the relative size of the groups shifted and restraint was used only in cases of organic brain damage, acute alcoholic intoxication, and one or two non-organic cases whose outbursts were still not explained. Practically all instances of restraint took place during the afternoon shift when a single relief nurse, who was unfamiliar with the patients and whose duties included other wards, was in charge.

DISCUSSION AND CONCLUSIONS

The crucial questions motivating this

venture have been: can the traditional mechanical restraints be discarded without greatly limiting the patients' freedom of action by other agents such as chemical sedation? Even if this can be achieved under the conditions of an experimental effort, is it possible to maintain the necessary level of psychiatric nursing during the daily routine?

These issues were identified in the running debate which took place in the early 1800's in England(3, 8, 9, 10, 14), and later in this country(4). Consistently favorable clinical results under a complete non-restraint regimen were reported (claims that all patients were cured by the new method have a familiar ring). The dramatic improvements were attributed to the carefully devised techniques with which the attendants were instructed to approach the patients in distress(2, 10). The adversaries of this "extreme" in the practice of moral treatment, apparently equally experienced psychiatrists, argued that complete non-restraint was achieved only by substitution of excessive seclusion(3).

In the first phase of the present study, a similar pessimism must have accounted for the transient increase in emergency medications administered on the nurses' own initiative. Evidently, the nurse's syringe had substituted for the aides' cuffs and belt in an otherwise therapy-conscious setting. Only through additional efforts within the structure of an experiment could chemical restraint likewise be brought under control and its minimum limits explored. The nurses observed for themselves that emergency sedation increased when only one regular nurse was on duty: "I didn't have time to stay with the patient and had to give a sedative instead."

Inasmuch as other relevant variables (new admissions, altercations, number of personnel, use of tranquilizing drugs) remained essentially constant throughout the observation period, the virtual abolishment of mechanical restraints and subsequent reduction of sedative medications must be the result of a still more consistent use of the personal, on-the-spot Nursing Ward Therapy. This particular therapy technique will not occur spontaneously but must be introduced with purpose and direction by those

responsible for the ward. In the final analysis, however, success of such a program depends upon emotional acceptance and genuine interest of psychiatric nurses and aides who work daily with their patients.

The level of restraints and sedative medication may be considered a real measure of psychiatric nursing performance. In this concept of measurement, the ideal level of nursing care is seen when physical and chemical controls are rarely used.

Intentionally the study was conducted in gradual stages to give an educational experience to all participants. In the beginning, the nurses took inventory of the restraint practices on the ward. They had the impression that restraints were not used excessively. They were genuinely amazed at the gross discrepancy between what they had believed and the actual restraint practice. When the study was completed they asked themselves: "Why did we need so much restraint before?" Later, the tabulation of chemical sedation was similarly revealing and instructive. Through the act of administering sedative medications the nurse could fulfill a traditional medical nurse's role. This experimental setting gave the nurse an opportunity to abandon some facets of this role and to appreciate more fully—possibly for the first time—the role of a specialist in psychiatric nursing.

We know from spontaneous comments that both the nurses and aides emotionally repudiated the old ways of running the ward, suggesting confidence in their new skills and the likelihood that the changes would be lasting. We also learned that the continual support and personal interest of those responsible for the ward is necessary. Since restraint, which by itself was a source of ward tension, was abolished, patients became more accessible. After the initial strain of getting used to the new techniques, we have the distinct impression that the performance of Nursing Ward Therapy has become an easier and more rewarding task.

SUMMARY

1. The use of mechanical restraint was virtually eliminated on a psychiatric ward of acutely disturbed, combative patients.

2. This was accomplished in a research setting through successive stages designed to be of educational value to the participants.

3. At first, the nurses tended to substitute chemical sedation for mechanical controls.

4. Through a number of informal talks and formal devices (restraint graphs, obligatory written memoranda for all restraint, etc.), Nursing Ward Therapy techniques were finally substituted for both mechanical and chemical restraint. As a result, the ward nurse perceived herself as shifting from a primarily medical role to the role of a psychiatric nursing specialist.

5. Nursing Ward Therapy is presented as the alternative of choice in handling emergencies in large mental institutions.

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TRANLYCYPROMINE¹ (PARNATE) IN THE AMBULATORY TREATMENT OF DEPRESSED PATIENTS²

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Melancholia is one of the oldest recognized mental maladies and it has been treated with a wide variety of methods and drugs. Depression is everybody's concern since it transgresses the bounds of all the medical specialties as well as constituting a definite socio-economic problem. Even then, the actual incidence of depression is not fully recognized since it often strikes in a mild enough form to masquerade as "vague nervousness" or to be hidden by some dominant and attention focusing somatic symptom.

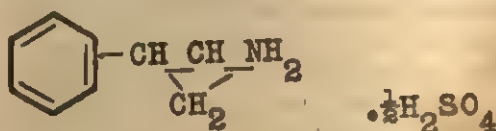
The introduction of the amphetamines some 20 years ago brought new hope for a cure. In 1939 Dub and Lurie(1) reported the beneficial effects of benzedrine sulfate on the mood and psychomotor activity of psychotic patients. In 1953 Salzer and Lurie (2, 3) studied the effects of a hydrazine, but non mono-amine oxidase inhibiting antidepressant drug, isoniazid. Although the benefits of amphetamines and isoniazid proved limited and consequently disappointing, the door was opened for the introduction of numerous more potent chemotherapeutic agents in the past decade including the large group of mono-amine oxidase inhibitors.

Many psychic energizers of varying efficacy have been introduced in the past few years, but none has been uniformly effective. Some have been beneficial in only a specific type of patient with a specific type of depressive reaction(4). Even then, there often is a discouragingly long interval of several weeks before benefit appears. The present study was undertaken to clinically evaluate a new drug which gave promise of being a more effective therapeutic agent.

PHARMACOLOGY

Tranlycypromine, a non-hydrazine inhibitor of mono-amine oxidase, is trans-dl-2-

phenylcyclopropylamine. Chemically it is related to the amphetamines and has the structure



More recently, 10 mg. of tranlycypromine was combined with 1 mg. of trifluoperazine.⁴ This product was introduced because of the realization that depression is often accompanied or masked by anxiety(5). Both drugs were included in this study.

MATERIALS AND METHODS

During a 20 month period 84 depressed patients (53 women, 31 men) were treated. Ages ranged from 21 to 79 years. All were ambulatory and were seen in private practice. Of this number, 57 received tranlycypromine while 27 patients received the tranlycypromine-trifluoperazine combination. In most instances the therapy with tranlycypromine was supplemented by small doses of barbiturates or phenothiazines. Several patients originally given tranlycypromine were later changed to the combination drug. The duration of treatment varied from 1 to 19 months except in 5 instances where a side effect forced an earlier termination of therapy. Eight patients received concurrent electric shock therapy while 35 had required shock therapy either for a previous episode or before starting with tranlycypromine. The average duration of the depression prior to therapy was 3½ months. All of the subjects exhibited psychomotor retardation with inability to function adequately from a vocational or social standpoint.

Fifty-one patients had psychoneurotic depressive disorders, of which 26 were endogenous and 25 were reactive. The remaining 33 patients had psychotic depressions, including 8 manic-depressive reactions in the

¹ Supplied as Parnate by Smith Kline & French Laboratories.

² Read at the Central Neuropsychiatric Association, French Lick, Ind., Oct. 14, 1960.

³ Doctors Bldg., Garfield Place, Cincinnati 2, Ohio.

⁴ Supplied as Parstelin by Smith Kline & French Laboratories.

depressed phase. Patients with demonstrable organic brain disease or depressive manifestations of schizophrenia were excluded from the evaluation.

During the earliest phase of the evaluation, a few patients received initial doses of 10 to 15 mg. of tranylcypromine a day. It was soon apparent, however, that initial doses of 30 mg. a day produced a much more rapid and dramatic onset of improvement. Consequently most patients received initial doses of 10 mg. of tranylcypromine three times a day, plus appropriate doses of a tranquilizer, usually either prochlorperazine, meprobamate, or a barbiturate. In some patients it was desirable to alter the dosage level relatively quickly, but in general, the initial dosage was maintained for an average of 4½ weeks. Subsequent decreases were made in accordance with the patient's progress but usually not for at least 4 weeks.

RESULTS

The results were evaluated in terms of subjective and objective improvement of the mood and psychomotor state. Symptomatic improvement was sought but, as stressed by Lesse(6), emphasis was placed primarily on the individual's ability to adapt to the routine vocational and social responsibilities of everyday life.

On this basis the results were almost identical in the group treated with tranylcypromine and the group treated with the combination of tranylcypromine and trifluoperazine. Consequently, the results in the two groups will be considered together.

Marked improvement occurred in 46 instances while the results were rated as moderate in 16 others. Ten individuals showed only minimal or transient improvement while 12 showed no benefit after 3-4 weeks of therapy. Combining these results, significant benefit was derived in 62 cases (74%) while 22 cases (26%) were considered failures. Lending credence to these results, and serving as a type of control, was the fact that the percentage of improvement obtained independently by each of the authors in his own series, was virtually identical.

Benefit from tranylcypromine appeared in an average of 9 days when a large initial dose was used. The average with the com-

bination of tranylcypromine and trifluoperazine, however, was 7 days. With both drugs, a few patients began to show signs of improvement after only 2 days of therapy while in some cases, the improvement did not appear until the third week. The delayed response, however, bore no demonstrable relationship to ultimate recovery.

Where the dosage was reduced prematurely and some depressive symptoms recurred, a prompt reversal was achieved when the dosage was temporarily increased. In 4 cases there were relapses 3 to 7 months after therapy had been discontinued. In each instance prompt improvement resulted when therapy with tranylcypromine was re-instituted. Their course was similar to their previous response even though it was usually treated with 20 mg. daily rather than 30 mg. Perhaps this may have been the result of initiating therapy relatively sooner after the reappearance of depressive symptoms.

SIDE EFFECTS

Initially blood counts were made routinely on all patients, but when no deviation from the normal was found in our patients on repeated examinations, nor reported by other investigators(5), this procedure was discontinued. Likewise, no instance of jaundice was encountered nor, to our knowledge, has any case been reported(5).

Most of the patients (62%) experienced no side effects. In 14 instances there were mild, but insignificant side effects. They were similar for both drugs: dry mouth, restlessness, dizziness and insomnia. The latter usually responded quickly when the last dose was given by 3-4 p.m. or when a mild sedative was added. Dizziness was overcome by giving the drug at bedtime, strangely enough, without producing any insomnia. With the combined drug, some drowsiness was also encountered.

More significant side effects included a diffuse macular skin rash which occurred in 5 cases and a severe devastating and disabling headache in 2 cases. The skin rash gradually disappeared when the drug was discontinued and did not require any specific ancillary therapy. The headaches were self limited, lasting only a few hours. They were generalized, very severe, and were accompanied by extreme agitation, restless-

ness, apprehension, and a transient elevation of blood pressure. They occurred after the ingestion of a heavy meal but produced no nausea or vomiting. In both instances they occurred after about 10 days of therapy. In each instance therapy had to be discontinued.

CASE REPORTS

Case 1.—A 51-year-old married man gave a history of mood swings, mostly of depressed nature, since the age of 20. These depressions had become more severe in recent years with each episode requiring hospitalization and electric shock therapy. Even then, improvement was slow and he usually missed 4 to 6 months of work. Chemotherapy was of minimal value in these episodes.

Like all previous episodes, the present one began rather suddenly and was characterized by a severely depressed mood, crying, marked psychomotor retardation, hysterical and impulsive behavior, and insomnia. He took an overdose of sleeping pills, apparently in a suicide attempt, but without any after effects. He was placed on tranlycypromine 10 mg. t.i.d. along with small doses of prochlorperazine and glutethimide. During the first 3 days of therapy, he took an entire bottle of 50 tablets of tranlycypromine at unknown intervals in unknown doses. No untoward side effects were observed. However, therapy was discontinued for one week and then he was again given 10 mg. of tranlycypromine t.i.d., plus a tranquilizer. One week later he showed definite improvement but was still depressed.

After 2 weeks of treatment, he returned to work on a part time basis and within 6 weeks was on a full time basis. About one month after therapy was begun the symptoms had largely disappeared and he was no longer using any sedative. The tranlycypromine was reduced to 10 mg. b.i.d. and was continued for 4 months. It was then reduced to 10 mg. once daily for 3 weeks and then discontinued. When seen 6 months later, he was adjusting well without any recurrence of symptoms.

Case 2.—A 25-year-old married woman gave a history of hysterical outbursts and depressive symptoms of 4 months duration. She was tense, tremulous, restless, and cried frequently. Her appetite was impaired and she had lost weight. She was afraid to be alone because of a fear that she was going insane and would kill her 3 children. She entertained thoughts of suicide, was unable to perform her household duties, and showed marked psychomotor retardation.

She was given the tranlycypromine-trifluoper-

azine combination, one tablet t.i.d., and 4 days later some subjective improvement was noted. At the end of one week she was less irritable, felt calmer, was eating and sleeping better, and felt less depressed. The drug was reduced to one tablet b.i.d. and she continued to improve. There were no further hysterical outbursts, and all symptoms of depression disappeared. Two months after therapy was begun, the drug was reduced to one tablet a day and her improvement has been maintained.

Case 3.—A 51-year-old nurse gave a history of 5 previous depressions, each of which responded to electric shock therapy.

Her current depression had been treated unsuccessfully with another course of shock therapy and she continued to be despondent and unable to work. The presenting symptoms were anxiety, apathy and pessimism, obsessive erotic thinking, inability to concentrate, and homicidal ideation. The somatic symptoms of insomnia, poor appetite, tachycardia, and tremulousness were relieved by a high protein, low carbohydrate diet. Along with this diet she received various sedatives, two antidepressant drugs, and supportive psychotherapy, but without any significant improvement.

After 3 months of this therapy, and when the patient was feeling that recovery was impossible, treatment with tranlycypromine 10 mg., t.i.d. was begun. Twelve days later she described her attitude as follows: "I felt like my old self again. I felt compelled to do my work." The medication was reduced to 10 mg., b.i.d. Six weeks after tranlycypromine therapy was instituted, she returned to her professional duties.

Because she resented being dependent on any medication, periodically she would stop taking the drug. In each instance, she again became depressed within 7 to 14 days, but the depression was alleviated within 3 or 4 days after resuming the tranlycypromine.

Case 4.—A 59-year-old man gave a history of a depression 10 years ago which responded to a series of electric shock treatments. Another depression 8 years ago failed to respond materially to EST, or to treatment with 12 different antidepressant drugs given over the course of the next 7 years.

When the present study was undertaken, he was significantly depressed, disinterested, forgetful, unable to concentrate, seclusive, and given to "day dreaming." Tranlycypromine, 10 mg., t.i.d., was administered.

Nineteen days later, he was greatly improved. He stated, "It took the treatment two weeks before it had any effect. I could feel it wanting to work. It seemed like there was a

closed curtain there. At the end of two weeks I began to penetrate that a little bit. At the beginning of the third week I noticed the improvement was prolonged, and each day it lasted longer until I felt well all day."

The dosage of tranylcypromine was reduced to 10 mg. b.i.d. on the 19th day. During the next 12 months repeated efforts were made to decrease the dosage further, but this proved impossible without experiencing a return of the depressive symptoms. At the end of one year of therapy he continued to be symptom free, but was still taking 10 mg. of tranylcypromine b.i.d.

DISCUSSION

The 74% improvement rate with tranylcypromine represents a significantly higher improvement rate than might have been expected in a similar period of time from psychotherapy alone. Likewise, the rapid onset of improvement in 7-9 days, although not as rapid as the 5 day average reported by Petersen(7), constitutes a specific drug effect.

The distinctly more rapid onset of benefit with the tranylcypromine-trifluoperazine combination in 7 days versus 9 days with tranylcypromine itself, despite the concomitant use of barbiturates or phenothiazine derivatives with the latter, suggests that part of the therapeutic result may be due to the action of trifluoperazine. However, the combination drug was found to produce benefits not obtainable from either tranylcypromine or trifluoperazine alone. The combination also eliminated the agitation and restlessness often encountered during therapy with tranylcypromine alone.

In 4 cases it has proved impossible to discontinue the drug without the recurrence of depressive symptoms, although the drug has been taken in small doses for as long as 12 months. Each time this was attempted, these patients found that only restarting tranylcypromine would help them.

Our experience has indicated that the best and most dramatic results are obtained with an initial dose of 10 mg., t.i.d. The drug should be decreased slowly, usually over a period of several months. This tends to

minimize a recurrence of any of the depressive symptoms.

Of the 22 cases who failed to respond to tranylcypromine, 9 failed to respond to any subsequent form of therapy while 7 patients recovered on therapy with other antidepressant drugs or EST. Contact was lost with the 6 remaining failures.

The incidence of improvement in each of the diagnostic sub-groups of depressions was analyzed. This failed to reveal any statistically significant selective effect of the drug.

SUMMARY AND CONCLUSIONS

Tranylcypromine is a safe and potent mono-amine oxidase inhibitor which, when used in combination with sedatives, produced improvement in 74% of 84 ambulatory depressed patients of both psychotic and psychoneurotic types. The onset of benefit was rapid, occurring within an average of 7-9 days. The improvement was more rapid and more dramatic when the drug was combined with trifluoperazine. The incidence of significant side effects was low. No case of blood dyscrasia or jaundice occurred in our series. Some of these cases have been followed for over one year and have had no relapse.

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RESULTS OF SIMULTANEOUS ABRUPT WITHDRAWAL OF ATARAXICS IN 500 CHRONIC PSYCHOTIC PATIENTS

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For a number of years most psychiatric hospitals have given various forms of tranquilizers in varying doses to many patients. Psychiatrists have made all possible checks to assure themselves that the patients were not being harmed and over the years little evidence of damage has been found. The reports of disturbing, or even dangerous, side effects have become fewer and in many of the newer tranquilizers they are even less frequent than in the older ones. Nevertheless, one wonders if the continued long-term use of these drugs might not some day cause unexpected and even dismaying clinical results. From the standpoint of the clinician it would seem logical to suspend the drugs for a period from time to time if no harm will come to the patient.

A great deal of work has been done on the effects of the withdrawal of drugs. Both gradual and abrupt withdrawal have been attempted. Usually these studies have been with comparatively small groups which were made the subject of intensive clinical or psychological observations and often these have been balanced by well conceived and well controlled groups. We have seen no studies involving a relatively large number of patients who had withdrawal of their ataraxics more or less simultaneously. It was felt that information was needed by the clinician about the results of such group withdrawals, both in the individual patient and the effect on his environment.

When drugs were removed abruptly, particularly if they had been given in sizable amounts over a long period of time, there had been reports of disturbing reactions(1). On the other hand, we have on many occasions seen patients abruptly removed from large doses of tranquilizers because of intercurrent medical or surgical necessity, or because the patient may have eloped without any serious symptoms resulting.

We have given considerable thought to the contradiction between the facts in the

preceding paragraph and the reports of severe withdrawal symptoms. It seems that the most logical explanation was that any research project necessarily involves a certain amount of expectancy, and this might account for the discrepancies. For example, one author reports 17 occurrences of morphine-like withdrawal symptoms in 28 patients(1). He had given these patients placebos, but he was never able to persuade them that these were not a new and more powerful drug. Other series have been studied with elaborate and well conceived batteries of psychological tests and it is entirely possible that the psychotic might well take these to be a sign of either hate or of affection.

With the above in mind we conceived the project of removing a relatively small number of patients from tranquilizers by simply stopping the drugs. This was done with a minimum of discussion with either patients or personnel. We selected a hospital industry ward and a maximum care ward. These 2 wards adjoin each other and the staff physician in each case has frequently served the other ward and was rather well acquainted with the patients and the personnel, and was in turn well known to them. All of the patients on these two wards who had been given tranquilizers continuously from 2 to 5 years and who were considered in satisfactory control had the drugs removed. There were 33 patients chosen on the maximum care ward and 54 on the hospital industry ward. Since the number of patients involved was small, it was felt that one or the other of the 2 staff physicians could always observe them closely. The drugs withdrawn were chlorpromazine (Thorazine) in 40%, prochlorperazine (Compazine) 23%, trifluoperazine (Stelazine) 17%, and in lesser percentage, thioridazine (Mellaril), reserpine, Tentone, and meprobamate. The trial lasted for 5 months, beginning in December, 1959.

Because of the opportunity for close ob-

¹ VA Consolidated Hosp., N. Little Rock Div., Little Rock, Ark.

servation we are giving the figures for this group in some detail.

At the end of 5 months the maximum care ward still had 35% of the original group off tranquilizer medication; the hospital industry ward 45.5%. On this ward the first patient was returned to treatment in 2 days, and the last patient to be returned was restarted on the 117th day. Thirty-four percent of the hospital industry ward patients were returned between the 7th and 8th week, and 62% of those returning on this ward re-commenced medication between the 7th and 15th week. Only 1 patient returned later than the 15th week. On 68 Upper, the more acute maximum care ward, the first case returned to treatment on the 6th day, and 27% returned between the fourth and sixth week. One case lasted 152 days before returning. On 68 lower, the less acute maximum care ward, the first case did not return to medication until the 5th week and the last return occurred within the 22nd week. The largest number, 30%, returned between the 5th and 6th week.

On both wards the most usual symptoms requiring the re-starting were hyperactivity, muteness, loss of pride in personal appearance, decreasing contact and threatening behavior and/or verbalizations. A few patients either commenced or increased hallucinations.

The most severe symptoms occurred in 2 patients, and were almost identical. Both were on chlorpromazine, one was receiving 1200 mgm. a day, and the other 300 mgm. Both complained of malaise and insomnia within 24 to 48 hours after the drug was stopped. The 300 mgm. case showed considerable diaphoresis almost at once and treatment was restarted after 7 days. The 1200 mgm. case began to complain quickly of general malaise, but the diagnosis was complicated by a complaint of dysuria and the discovery by the Genito-Urinary Service of a prostatitis around a prostatic calculus. This patient showed a most severe diaphoresis in 28 days and was returned to chlorpromazine in 33 days. All symptoms except the dysuria in the second case disappeared promptly after the ataraxics were restarted.

When the smaller intensively studied group was successfully withdrawn we

turned to a larger study, in which 519 patients, nearly one-third of the non-medical psychiatric population at the hospital, were removed from tranquilizer medication for 90 days. Wards used in this study were 2 open wards, 3 partial privilege wards, and 1 which was geriatric with some younger regressed schizophrenics. Typical dosages in these patients were 300 mgm. or 600 mgm. of Thorazine per day or 30 mgm. Compazine. Meprobamate daily dose never exceeded 1200 mgm. per day. Their return to medication in the ensuing period showed a peak at 30 days with a large number, approximately 28%, still off at the end of the period. There were a few reports of nausea, vomiting and/or diarrhea early in the trial. None was severe, and few needed medication. All subsided promptly. Otherwise, withdrawal symptoms resembled those of the smaller group. However, some of these symptoms occurred in non-medicated patients as well, and in patients whose medication was not withdrawn, so that we feel it would be easy to overemphasize the expectancy of these symptoms. Where seizures have been reported in the literature with meprobamate withdrawal, the dosages have been much higher than we used. During the period there were 6 of the 519 patients sent to the maximum care ward. One had become intoxicated on partial privileges and 2 had been absent without official leave.

The reaction of the ward personnel was both interesting and a problem. On all wards the nursing assistants were quite doubtful of the wisdom of the attempt. This is understandable in a hospital which has never had a seclusion room and which prides itself on the non-use of restraints. As the failures began to return to medication this fear died away, the talk of a "change in ward climate" was no longer heard, and at the time the studies were terminated those who were not returned to medication were considered to be normal members of our ward communities.

CONCLUSIONS

It was the opinion of the staff physicians who had known the patients well for a long time, that there was probably some worsening in such matters as increase or beginning of hallucinations, poorer eating habits, in-

creased apathy, restlessness, slovenliness, and general deterioration. The few patients sent to the maximum care ward indicates that hyperactivity was never a pressing problem. The overall impression was that the diseases had merely resumed their symptomatic courses when the protection of the tranquilizer was removed. On the whole exacerbated symptoms subsided readily when medication was reinstituted. Transfers to the maximum care ward did not rise to an appreciable extent (6 in 3 months).

SUMMARY

It is our opinion that the sudden withdrawal of tranquilizers from chronic psychotics living in a protective and reasonably permissive ward atmosphere will do no apparent harm to their condition in the majority of patients for a period ranging up to 5 months. Withdrawal symptoms were few, mild, and easily controlled, and asocial conduct usually subsided readily when the drugs were readministered. Drug intake as measured by duration, or dosage, or type

of drug does not seem to be a factor as to how long a case can remain off medication socially. Neither do diagnosis, or apparent duration of illness, or age, except that those within the geriatric period seemed to remain off medication for the 90-day period in somewhat larger percentage. The results of this experiment seem to confirm a 1954 study(2) by a group at this hospital which found that clinical response and the pattern of resistive isolation in the Lorr Scale were the main improvements to be expected following the use of chlorpromazine and reserpine—and the present authors feel that this may well be true of all tranquilizers on this type of patient.

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CLINICAL NOTES

(The Clinical Notes report the findings of the authors and do not necessarily represent the opinions of the Journal.)

THE EFFECT OF AMPHENIDONE (DORNWAL)¹ IN ANXIETY STATES: A MULTI-BLIND STUDY

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Since the effect of "major tranquilizers" on anxiety states has appeared to be equivocal, a continuous attempt has been made to develop specific antianxiety and antitension substances. Amphenidone (1-m-amino-phenyl-2-pyridone) was introduced as such a substance (1, 2, 3). The present study was undertaken to systematically investigate this contention.

The research design was what we have designed as "multi-blind" (4) because it contains two characteristics: 1. Pharmacotherapeutic blind unit. This consists of a research service at the Allan Memorial Institute where all medications are distributed solely by the research nurse, under the supervision of the chief of the service, without the knowledge of the research team (7 psychiatrists, 1 psychologist, 1 social worker, 1 occupational therapist and 2 ward nurses). In this unit at any given time an average of 5 new drugs and 5 placebos are being used, to the effect that there is an ignorance of the pharmacotherapeutic regime at several levels. 2. Multiple observer assessment. The final evaluation of the drug effects is the pooling of observations of different members of the team. The drugs are administered at random. A simple rating scale was devised to evaluate anxiety, consisting of behavioral (autonomic signs, restlessness, irritability) and experiential indices (tension, anxiety, discomfort, jitteriness, "nervousness"). Complete disappearance of behavioral and experiential indices were designated as marked, and complete behavioral and partial disappearance of indices as moderate improvement. Slight improvement was included in nil category.

Amphenidone was administered orally in the above setting to 40 patients, with an average daily dose of 3700 mg. (maximum 6400 mg., minimum 1600 mg.) for an average period of 3 weeks. There were 22 males and 18 females with an average age of 37½ years. Diagnostically they consisted of 28 neurotics (10 anxiety states, 1 obsession, 4 mixed states, 10 depressions and 3 addictions) and 12 psychotics (1 depression, 11 schizophrenics). The major symptom in all cases was anxiety and tension.

Placebo was administered to 40 other patients for an average period of 3 weeks. There were 20 males and 20 females with an average age of 36. Diagnostically they consisted of 28 neurotics (10 anxiety states, 1 obsession, 6 mixed states, 10 depressions and 1 addiction) and 12 psychotics (1 depression and 11 schizophrenics).

RESULTS

In amphenidone group 9 out of 28 neurotics and 6 out of 12 psychotics showed significant (moderate to marked) improvement. In the placebo group, 2 out of 28 neurotics and 1 out of 13 psychotics showed moderate improvement. The Chi Square (X^2) analysis of the results indicated that the response to amphenidone in neurotic patients was statistically significant at slightly better than 0.05 level ($0.05 > P > 0.02$). In psychotic group there was only a tendency to significance ($0.10 > P > 0.05$), due to the small number of patients used.

Side effects were very minimal in amphenidone group and consisted of mild fatigue and drowsiness in 9 patients, slight dizziness and headaches in 6, hand tremor in 2 and nausea and vomiting in 2. Biochemical tests (liver function, W.B.C., urine analysis, and BP and TPR remained within normal limits.

¹ Dornwal is manufactured by Maltbie Laboratories Division.

² McGill University, Department of Psychiatry and A.M.I.

The general impression was that amphenidone was a mild to moderate and safe anti-anxiety and antitension substance and suited mainly for neurotic anxiety reaction.

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A CLINICAL EVALUATION OF FOUR ANTIDEPRESSANT DRUGS (NARDIL, TOFRANIL, MARPLAN, AND DEPROL)

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ROGER H. SLUTSKE, M.D.¹

The purpose of this study² was to evaluate the effect of four antidepressant drugs,³ on the clinical picture of depression.

The study covers the relatively short period of 3 weeks since: 1. We have baselines of expected response to established treatments such as EST, tranquilizers, support of milieu, and doctor-patient relationship for this period which could furnish comparison; 2. Longer periods (6-8 months) tend to confuse the question of attributing result to the drug, other concurrent therapies, or natural course of the illness; 3. In order to seriously challenge established therapies, the drugs would have to produce discernible clinical improvement in a 3-week period.

Subjects were selected on the basis of depressive symptomatology rather than of diagnostic category. Excluded were: 1. Patients with liver or kidney disease; 2. Patients who required the immediate use of established methods such as ECT (severely depressed, suicidal patients who refused food). A total of 26 patients were studied over a period of 6 months.

The study was based on frequent close

observation of changes in the clinical picture. From his own examination and information from ward personnel, the resident filled out an evaluation form every third day, beginning with a 14 day pre-treatment period to get a clinical baseline and to pick up any trend of change before the drug was started. All subjects were receiving indicated regular treatment such as individual and group psychotherapy, occupational and recreational therapy. Patients were then placed on a drug for a 3-week period. As each form was completed, the resident turned it in, so as not to have it for reference in filling out subsequent forms. At the end of the 3 weeks' treatment period there were 13 evaluation forms for each patient describing his clinical picture over a period of 5 weeks, as shown in the following example.

EVALUATION FORM

Patient's Name _____ Physician _____
Day of Pre-treatment evaluation 1 3 6 9 12
Day of treatment (circle) 1 3 6 9 12 15 18 21
Patient's age _____ (1) Weight _____ (2) B.P. _____
(3) Hours of sleep _____
(4) Bowel functioning: _____
(5) Side effects: _____
(6) Appetite and feeling about food: _____
(7) Participation in activities: _____
(8) Level of anxiety or agitation: _____
(9) Thought processes and content: _____
(10) Mood—subjective or objective: _____
(11) General statement as to change in clinical picture: _____

¹ Veterans Administration Research Hospital, Chicago, Ill.

² Grants to support this study were provided by Hoffmann-LaRoche, Inc. and Wallace Laboratories, Inc.

³ Nardil provided by Warner Chilcott Laboratories, Morris Plains, N. J.; Tofranil, by Geigy Pharmaceuticals, Ardsley, New York; Marplan, by Hoffmann-LaRoche Laboratories, Nutley, N. J.; and Deprol, by Wallace Laboratories, New Brunswick, N. J.

Patients were selected by the authors after study of history, psychiatric examination and physical examination. The name of each patient selected for the study was

Our findings were as follows:

TABLE 1

DRUG	MUCH IMPROVED	SLIGHTLY IMPROVED	NO CHANGE	WORSENER
Marplan		1. Psychotic depressive reaction 2. Depressive reaction psychotic	1. Involutional depressive reaction 2. Alcoholism and chronic anxiety state and depression 3. Involutional psychotic depression	1. Character disorder with depression
Tofranil	1. Reactive depression psychotic 2. Psychotic depressive reaction	1. Schizophrenic reaction, catatonic type 2. Character disorder with depression	1. Reactive depression psychotic	1. Schizo-effective reaction
Deprol		1. Psychotic depressive reaction 2. Reactive depression 3. Schizoid personality with depression 4. Psychotic depressive reaction	1. Neurotic depression	
Nardil	1. Involutional psychotic reaction 2. Schizoid personality with depression	1. Manic-depressive psychosis, depressive type		1. Reactive depression psychotic
Placebo			1. Involutional depression 2. C. T. disturbance, oral dependent type, with severe depression 3. Chronic schizophrenia 4. Chronic anxiety state	1. Psychotic depressive reaction

sent to the hospital pharmacist who assigned one of the 4 drugs or placebo in rotation. All drugs were sent to the ward under a code name, and were taken orally. No one involved in the study knew which drug a patient was receiving. Only after all the data were analyzed did we break the code.

The data on the 13 evaluation sheets on each patient describing features of the clinical picture are traditionally regarded

as especially pertinent in depressions. They depended on the clinical judgment and observation of the residents. Thus, clinical observation rather than check sheets or rating scales is the yardstick which has always been the determinant of practice, of accepting new treatment methods or discarding old. For this reason, in spite of its imprecision as a tool for scientific measurement, it was used in this study with the controls and balances built into the experimental design.

TABLE 2

DRUG	MUCH IMPROVED	SLIGHTLY IMPROVED	NO CHANGE	WORSE
Marplan		2	3	1
Tofranil	2	2	1	1
Deprol		4	1	
Nardil	2	1		1
Placebo			4	1

As mentioned above the patients in this study were receiving the usual therapies both before and after receiving the drug. Thus, when the drug was started, we were in a position to observe whether the baseline trend seemed to be significantly altered in a 3-week period.

We decided to graph the data on a simple three-point scale indicating degrees of severity of clinical depression with the upper point on the scale indicating significant improvement. The graphs, made up by an IBM consultant, merely represent the descriptive statements of the evaluation sheets. We then exercised two checks: 1. We asked each resident if the graph represented what he had intended in his evaluation sheets; 2. We had a consulting psychiatrist go through the nurses' notes on each patient and report if the description of change in clinical picture correlated with that indicated by the graphs. Both checks supported the accuracy of the graphs.

After we had thus determined a final evaluation of clinical change for each patient, we broke the code and determined the result by drug.

When analyzed in this way, our data are inconclusive, even when keeping in mind that we were directing the drug against depression regardless of diagnostic category. Certainly numbers are too small to warrant differentiating between the drugs in any conclusive manner. We will leave it to the reader to conclude any differentiation. Our only conclusion from these data is that all 4 antidepressants drugs showed better results than the placebo. This would seem to have some significance, even with small numbers, in a double-blind study.

If we present the data in terms of num-

bers eliminating diagnostic category, this differentiation between the 4 drugs and the placebo seems more striking.

Conclusions: 1. None of the antidepressant drugs is a wonder drug in the dosage and time period for which we used them, but they have some favorable influence on depressive symptomatology. 2. Objective, controlled clinical evaluation of drugs in psychiatry is difficult because of (a) the imprecision of our measurements, (b) the many variables (such as effect of individual psychotherapy, nurse-patient relationship, just being in hospital, etc.) which are hard to evaluate (not to speak of control), (c) the massive effort involved in dealing with statistically significant numbers in a study based on intensive clinical observation, (d) the inaccuracy accrued when one deals in large numbers using infrequent casual clinical observation, and (e) uncertainties as to natural course of illness when long time-span is involved.

Nevertheless, controlled clinical evaluations of new drugs are essential in order to maintain a rational treatment.

Drug courses used in the study:

1. *Marplan* (Analog of Iproniazid, an amine oxidase regulator). Dosage: 10 mg. p.o., t.i.d. for 7 days; 10 mg. p.o., b.i.d. for 14 days.

2. *Tofranil* (Imipramine, G22355, MOA inhibitor). Dosage: 25 mg. p.o., t.i.d. for 21 days.

3. *Deprol* (Meprobamate plus benadryzine hydrochloride). Dosage: 1 tablet p.o., t.i.d. for 21 days (400 mg. meprobamate plus 1 mg. benadryzine hydrochloride).

4. *Nardil* (MOA inhibitor). Dosage: 15 mg. p.o., t.i.d. for 21 days.

CASE REPORTS

THE PHOBIC ANXIETY-DEPERSONALIZATION SYNDROME

I. PIERCE JAMES, M.A., D.P.M.¹

Roth(2, 3) described as "the phobic anxiety-depersonalization syndrome" a group of symptoms which he had noted occurred frequently in individuals of immature and dependent, yet obsessively driving and routine-bound personality under certain types of stress. He regarded the condition as a "pan-neurosis" often dominated by anxiety, depression and depersonalization; but a "distinct entity," to be distinguished from depressive illness, *etc.*

The essential features are depersonalization and a characteristic pattern of phobic anxiety; often a fear of leaving familiar surroundings, of being alone in crowded places, *etc.*, and of fainting, losing control, harming others, *etc.* Vaso-motor disturbances, hypochondriacal preoccupation, obsessional symptoms and a neurotic type of depression (often labile but occasionally severe) occurred in the majority of patients. In nearly half of the cases there were "not only unreality feelings, often of an episodic nature, and *déjà vu* phenomena but additional symptoms suggestive of dysfunction in the temporal lobes or related structures in the limbic system. These included metamorphosis, panoramic memory, intense hypnagogic hallucinations and the interesting closed-eye hallucinations ('private cinema phenomenon') often described in experiments with hallucinogenic drugs and in pre-delirious states."

Roth placed great emphasis on the pre-morbid personality and on the precipitating life-stress. The patients were on the one hand conscientious, scrupulous, earnest, routine-bound and anxiety-prone—in other words mildly obsessional—while on the other hand they were dependent and emotionally immature to a marked degree, intense and often exclusive of social contacts outside the immediate family circle. Most of the women were frigid but strove for the security of their marriage. Breakdown "followed closely on a bereavement or suddenly-

developing serious illness in a close relative or friend, illness in or acute danger to the patient himself . . . or a severance of family ties or acute domestic stress, which often constituted a threat to marriage." There had thus been a real or symbolic threat to health or security in a certain type of security-seeking individual. In a proportion of the women in Roth's series the illness had followed childbirth.

Provided that the clinical assessment is made critically in terms of symptomatology, pre-morbid personality and precipitating events, the concept of the phobic anxiety-depersonalization syndrome seems useful as it does carry certain therapeutic and prognostic implications. Roth(2) found electroshock to be contraindicated. In the writer's experience the condition tends to run a remitting-relapsing course in relation to the patient's life situation, but florid or permanent psychosis does not ensue. Some of these cases are probably diagnosed as depressive illness; others as schizophrenia, or pseudo-neurotic schizophrenia(1). However Roth (2) feels that pseudo-schizophrenic neurosis would be a more appropriate title and the natural history of the illness usually bears this out.

A 27-year-old English-born married woman presented symptoms of tension, phobic anxiety, depersonalization, insomnia, labile depression, hypnagogic hallucinations, *etc.* The illness had developed after the birth of her 3-year-old daughter and had improved after some months; only to relapse following her husband's admission to a T.B. sanatorium.

Her childhood had been unhappy. She was the oldest of 6 and had always been shy, timid and anxious as a girl. Her father was a sailor whose rare visits home were among her happiest memories. When she was 11 he finally left the family and some years later died of tuberculosis. After his departure the mother's drinking and promiscuity became even more marked. Mother would disappear from the home for days leaving the patient, at the age of 12, to fend for her 5 younger siblings. This

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was during the war-time bombing of England and she remembers nights of terror trying to pacify the younger children. Eventually the children were taken into the care of the local authority and at the age of 14 she was sent to Australia under a child migration scheme.

At the age of 17 she was found to have tuberculosis and spent over a year in a sanatorium where she met her future husband. He was 9 years older and of Polish descent. She married some months later "to get away from the hostel." Sexual adjustment is poor but she insists that the marriage is very satisfactory. There are 3 children.

Before her present illness she rarely consulted a doctor (except for her chest condition), was cheerful, energetic and a competent housewife. She was meticulous in her activities and somewhat obsessional (compulsions to hang her wash on the line strictly according to size of garment, to check taps on leaving the house, *etc.*). She had few social contacts outside the family. She was subject to some degree of tension and depression during the premenstrual week.

When first seen she complained of feelings of strangeness—"Not me; lightheaded; as though I were standing behind watching things going on." These feelings were worse in company and later she developed intense and frightening periods of depersonalization lasting 1 or 2 hours and usually occurring in the mornings. She also had episodes of tension and anxiety; mounting on occasions to panic. She was afraid to leave the house alone, to travel on buses; was afraid she might harm the children, lose her senses in company or go out of her mind. She was subject to depressions when she would weep for no reason and become despondent but these were usually short-lived. Her obsessional traits had become more marked. At night she was unable to go to sleep for some time but did not wake early in the morning. As she was going to sleep she would become vividly hallucinated, hearing the voices of her children calling, her neighbours talking, *etc.* She also had *déjà vu* experiences and other perceptual disturbances. On occasions objects and people would appear distorted or changed and scenes or people's faces would seem unfamiliar and terrifying. There was no evidence of any epileptic phenomena.

Psychological testing² disclosed average intelligence and an "overall test pattern pointing

to an immature, dependent, unreflective hysterical character structure. Anxiety and phobic fearfulness are associated. Many of her Rorschach associations and T.A.T. themes centered on early emotional deprivation, with feelings of loneliness, inadequacy and threat of external danger throughout. Considerable resentment over unsatisfied dependency needs exists, with any expression or awareness of this causing guilt and fear of hostile retaliation . . . rejection of the last child as a usurper of her own dependency needs."

The patient was seen regularly at the outpatient clinic and at first improved considerably but after 10 weeks her symptoms were again so intense that she had to be admitted to hospital. After an initial reluctance to stay she settled well into the ward, where her behaviour was conforming but rather exhibitionistic and subtly attention-seeking. In therapy she was at first flirtatious, talkative and demanding, but later was able to discuss her dependency-needs and her pattern of adjustment. Her symptoms again receded and her discharge from hospital was arranged but, because of a minor domestic problem (and also because a problem case conference had been arranged) this was postponed. This decision was unfortunate and thereafter she became so dependent on the hospital milieu that final discharge was only feasible after her husband's return home from the sanatorium. She continues in outpatient therapy and is much improved but by no means symptom-free.

COMMENT

The patient described exemplifies the phobic anxiety-depersonalization syndrome described by Professor Roth (2). She was an immature, dependent, security-seeking person whose first breakdown occurred after the birth of her third child. Acute relapse followed her husband's re-admission to hospital with tuberculosis, when she was left alone at home to cope with her 3 children; circumstances which re-activated adolescent trauma.

In spite of the intensity of her symptoms and the occurrence of nocturnal hallucinations, *etc.*, the illness ran an essentially neurotic course.

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² The author is indebted to Mr. A. F. Bownes, B.A., Dip. Clin. Psych., Heathcote Hospital, Perth, Western Aust. for his psychological assessment of the patient.

ELECTROCONVULSIVE THERAPY FOLLOWING AN OPERATION FOR COARCTATION OF THE AORTA

SHIRLEY RUBERT, M.D.¹

With the development of surgical techniques to correct certain congenital malformations of the heart and great vessels, new questions have been posed, a crucial one being: Can electroconvulsive therapy be used with safety to treat postoperative psychoses?

Case Report: Seven days following a surgically successful repair of a congenital coarctation of the aorta using a synthetic graft, psychiatric consultation was requested. The previous evening, the patient, a 28-year-old, married, television repair man, had become severely agitated and had slept little. He was becoming progressively more exhausted because of hyperactivity. He described a religious experience which he maintained proved he was saved and that his mission was to lead others to salvation. He literally shouted that he felt wonderful and had no worries.

Until a few months prior to his operation the patient lived with the belief that he suffered from severe rheumatic heart disease and hypertension; therefore, his activities had been so restricted that he did not graduate from high school until he was 21. He always felt excluded from group activities other than those at church. He was rejected by the Armed Forces and could not find employment in industry because of his hypertension. As he grew up he worried about possible blindness because of hypertension and feared mental illness because his father had once been in a psychiatric hospital.

At 25, in spite of his family's disapproval, he married the first woman he ever dated. It was when he and his wife were examined because of her repeated spontaneous abortions that the nature of his disability was first diagnosed as coarctation of the aorta. Initially he was unwilling to consult with a cardiologist and cardiac surgeon, but he did so at his wife's insistence. An operation was recommended but a delay of several months ensued while State Rehabilitation Funds were obtained to cover operative expenses. During this period he spoke incessantly about the forthcoming operation and

wondered why the correct diagnosis had not been made earlier.

In the immediate postoperative period, and before the acute psychotic episode, he felt very depressed. He was certain that he was about to die and believed that his family and the doctors and nurses expected this outcome. He had witnessed the death of a younger patient who had undergone a cardiac operation, and he believed that another patient on the service had also succumbed. He knew that his blood pressure had not returned to normal levels, and he feared complications because he was febrile and on antibiotics. The postoperative treatment, especially endotracheal suctioning, was more painful than had been anticipated.

On the seventh day, psychiatric consultation was requested. Intramuscular thorazine (100 mg.) followed by intravenous amylal (approximately 300 mg.) to induce sleep did not result in a sustained change in his state.

The following day he was transferred to the Syracuse Psychiatric Hospital. There, his course was characterized by marked variability. He was almost constantly drenched with perspiration. Periods of muteness alternated with periods of marked agitation and shouting. He became quiet only when he was attended constantly by hospital personnel. His speech became progressively more slurred. This he attributed to an injury to his tongue caused by endotracheal suction. During periods of excitement his blood pressure reached 280/140 but could be lowered to 140/90 with intravenous amylal (250 mg.). There was an intermittent supraventricular tachycardia of 150 per minute. He continually climbed or rolled out of bed and slept on the floor. At times he would collapse in the hallways and lie on the floor. His appearance was that of a person more dead than alive since he was always extremely pale and perspiring and kept his eyes half-closed and his mouth half-open. Eventually every effort at verbal communication completely failed. Thorazine no longer produced alterations in his behavior. His physical condition was deteriorating in that he was losing weight and was failing to maintain an adequate fluid intake.

With the surgical consultant's approval, the decision was made to use electroconvulsive therapy as a life-saving measure. Accordingly, 47 days after his operation, the first treatment

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was given. No muscle relaxants were used. Marked temporary improvement followed and was sustained after the second ECT. He received 7 treatments. There were no complications. He reverted to his previous personality and he became eager to resume "business as usual." He returned home 13 days following the last ECT.

SUMMARY

Improvement in and more widespread use of corrective surgical procedures for congenital anomalies will result in a new life experience for many patients. It will also in-

crease the life span for some of them. These patients may present new problems for the psychiatrist. In the case reported here, unmodified electroconvulsive therapy was used without untoward effects in a man who had undergone a major intrathoracic vascular surgical procedure involving the use of a synthetic graft. The first treatment was given 47 days following the operation. Certain dramatic aspects of the preoperative and postoperative reactions have also been described.

SIX MONTHS OBSERVATION OF PSYCHOTIC IDENTICAL TWINS¹

DAVID W. SWANSON, M.D.²

Uniovular twins are one of nature's more tantalizing offerings to medical observation. Identical genetic structures are obliged to react with an environment that exerts its random effects on each individual, from the first cellular division until the last. The degree to which the chromosome and the environs contribute to the result remains fertile with discord. A valuable opportunity is offered when identical twins appear, simultaneously, for psychiatric hospitalization. In this instance both patients were observed for 6 months. The following is a report of concordant and discordant behavior in twins and some of the more obvious causes for their differing.

Birth to Adulthood: These male twins were the product of a full term, uncomplicated pregnancy and were delivered at home. Twin A arrived first, as a breech presentation weighing 4½ pounds. Twin B followed immediately as a cephalic presentation weighing 6½ pounds. Physicians hospitalized the smaller infant for observation and his brother was delegated to keep him company, which he did for 3½ weeks. For a portion of this time it was necessary that Twin A be in an incubator. Both were breast-fed for 4 months and bottle-fed until 1 year.

They were toilet trained and able to walk at just over 1 year.

Twin A became a feeding problem and when forced to eat foods he disliked would vomit violently. He began talking at 2 years, several months after Twin B, and demonstrated fear, anger and happiness with much less restraint. Early the two would isolate themselves from other family members, with Twin B appearing calm and protective of his brother.

The twins began nursery school at age 4. Twin A was always inferior in schoolwork and failed the second grade. To avoid separation he attended summer school. In school neither twin made friends. They were aloof, passive and created few problems before terminating their education just prior to graduation. During these years Twin A experienced an enlarged testicle (age 2), St. Vitus Dance (age 10), stuttering (age 10) and severe acne (age 15); all of which Twin B escaped.

Adulthood: Both twins were felt to become more seclusive following adolescence. They would date only on a "double date" basis and bragged of patronizing houses of prostitution. They began smoking and drinking. Later Twin A drank to excess and when intoxicated was violent, pretending he was "Al Capone."

Twin A was rejected for military service, the exact reason being unknown. Twin B was drafted into the navy, but this career aborted at 8 weeks when he was given a "general discharge" because of inability to adjust. Except for this separation they always worked together.

During the year preceding admission to hospital they became more inseparable and

¹ We gratefully acknowledge the assistance of Doctors Borelli and Bielkus, in accumulating this information.

² Illinois State Psychiatric Institute, Northwestern University Service.

would neither eat nor converse with the family. Their belligerence made it impossible for the father to employ them and 2 months before admission they physically attacked him. They would not leave their room, were untidy, dressed bizarrely and felt others considered themselves superior. Although the family considered Twin A as the more disturbed they had them committed together.

Family History: Neither parent had experienced any significant medical or psychiatric illness and there was no family history of such. The father was from a financially deprived background and had worked exceedingly hard to gain ownership of his home and business. He was felt to be aggressive, dictatorial and at times depreciating.

The mother seemed quite passive and fearful. She was generally submissive to her husband and did not protect the children against his dominance. However, when he was absent she would contradict him by making special concessions to the children. There were 2 younger female siblings whose adjustment was felt to be good.

Findings Upon Admission: Twin A was suspicious, possibly hallucinating and irritable. He admitted a "nervous breakdown" due to overwork, and the fear that he might have syphilis which could eat his body away. He berated both parents. Twin B was guarded, angry and kept showing his commitment papers to the physician. He referred to his father having him "thrown in the hospital without reason."

Psychological evaluation resulted in both twins relating intensely to the female examiner, A as sexually provocative and B as physically threatening. They were both unshaven, belched frequently and drew pictures of the examiner. Verbalizations to the same stimuli were many times identical. Twin B appeared more intelligent, but neither cooperated enough to make a complete intellectual evaluation. Point to point correspondence between Rorschach responses did not exist, but both gave obvious evidence of immense hostility toward female figures and considerable anxiety. Twin B demonstrated a paranoid preoccupation with being watched.

Physical examination revealed men who were quite similar in general appearance, mannerisms and height. Twin A weighed 10 pounds more than Twin B and they could be differentiated readily. Ultimately the objective basis for uniovularity was 8 identical blood factors. The electroencephalographic records showed the same regularity and frequency of alpha rhythm. However, the alpha rhythm of B was of lesser amplitude, had a better reactivity

and was driven by photic stimulation.

Hospital Course: During the 6 months of hospitalization Twin A gained 12 pounds and Twin B lost 8 pounds. They were on different wards after 4 weeks and Twin A was on phenothiazines throughout, his brother received no medication. To their respective male therapists they demonstrated little motivation. Twin A was untruthful, sarcastic, drank on passes, expressed peculiar ideas and did not show anxiety until transfer to another hospital was imminent. Twin B originally belligerent and hostile became more withdrawn, silent and suspected people were watching him. He passively accepted arrangements for discharge to parental custody.

Nursing staff observed that the twins spent much time together, apparently without talking. They generally resented all approaches of personnel and pestered the female patients. Twin A was accused of sexual activity with a female patient and physically attacked a male attendant. Both were clever in obtaining alcohol and arranging meetings with each other, even when attempts were made to prevent this contact for therapeutic reasons. Twin A expressed his feelings more readily, got intoxicated and could be sociable, but Twin B remained aloof and withdrew from the nursing staff.

In activity therapy the twins worked on projects irregularly, were slow and lacked skill or creativity. They frequently used this facility as a meeting place.

DISCUSSION

Four observations recur in the case records and merit attempts at explanation: 1. The twins were generally similar; 2. Both were functioning pathologically; 3. A powerful relationship existed between them; 4. They demonstrated dissimilarities.

Numerous similarities in physical findings, behavior and psychopathology were present in these twins. Features frequently concordant in identical twins have been thoroughly discussed from a genetic viewpoint (1, 2, 3, 4). Conclusions from these extensive studies indicate that basic personality make-up is largely determined by heredity, and that adaptive failure follows a course primarily genetically determined.

However, whether due to inborn demands of the twins or inadequacies of the environment, no warm human relationships were successfully established beyond each other. They withdrew at an early age, maintaining an indifferent relation to a world that did

not demand much of them. With adulthood and increasing requirements by family and society they became unable to control their world by indifference, aloofness and evasiveness. In handling these demands they manifested increasing hostility, projection, alcoholic excesses and seclusiveness unacceptable to the family.

In the hospital the relationship between the twins was unique. They preferred each other's constant company and resisted efforts at separation by meeting each other in hallways, activity facilities and their rooms. Actually, when together they conversed very little but gave the impression they were communicating and more at ease than when separated. When confronted together they reacted as a unit. When separated, individual differences became obvious.

This relationship is hardly surprising. It was at birth that the environment made itself clear that these twins were to be viewed as one organism, by subjecting Twin B to unnecessary hospitalization. This is further illustrated by: standardizing feeding schedules and toilet training; assuring that they were together in school; having the same plans for each of them; and finally simultaneous commitment. Independent adaptation was apparently difficult, or at least they were successful in avoiding it.

Despite the above there were obvious dissimilarities. Twin A had more physical difficulties and deficiencies. These were: lower birth weight, slower development, less

intelligence, a greater number of physical incapacities and a pathological reaction to alcohol. Less certainly due to biological difference were early feeding problems, greater impulsivity and more bizarre mental symptomatology. His greater capacity for expressing feelings and socializing may have been the result of increased attention in response to his demands as an infant and child (feeding problem, fearfulness and rheumatic fever).

The dissimilarities influenced discharge planning. The family and society were more willing to tolerate the withdrawn, seclusive, hostile Twin B. Though his adjustment was quite pathological it was more acceptable than the unpredictable behavior of Twin A who reacted with physical aggression and marked loss of control when drinking.

SUMMARY

This is a case report of identical twins observed for 6 months in a hospital setting. Their past history and clinical course are reviewed. Similarities and dissimilarities are described.

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SEVERE PAPILLEDEMA ASSOCIATED WITH DRUG THERAPY

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We have recently observed a patient who evidenced marked ophthalmologic and neurological changes while on drug therapy. Visual disturbances and changes in the ocular fundi have been previously reported with the use of thioridazine (3, 4, 5) and with the experimental phenothiazine NP 207 (2). Patients have reported blurring of

vision and difficulty in light adaptation. The fundi generally showed increase in retinal pigmentation, with retinal edema and hyperemia of the discs. Davidoff (1) has summarized a group of 29 neurological patients who presented with headache and papilledema and who apparently had benign intracranial hypertension of unknown etiology which he termed "pseudo tumor cerebri." The similarity of this group with our patient merits consideration.

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Case Report: The patient was a 21-year-old Negro girl admitted to Hillside Hospital on Jan. 20, 1960, following repeated hospitalizations for mental disorder. Prior to admission she had received chlorpromazine without complication. She was referred for drug therapy because of a paranoid and depressed state. She received imipramine, beginning Mar. 30, 1960; starting at a dose of 75 mg. daily. This was increased by 75 mg. at weekly intervals to 300 mg. daily, and maintained to May 6. At this time she was agitated and complained of severe headache for the previous 3 days. On admission an electroencephalogram had shown a symmetric, non-focal record with some theta but no delta activity. On May 5, this was repeated and it showed no significant changes from the pre-treatment record.

Because of her agitation, thioridazine, 100 mg. b.i.d., was started on May 7, and imipramine was reduced to 150 mg. o.d. On May 11 the patient reported a stiff neck. The next day thioridazine was increased to 600 mg. daily. On May 13 she reported diplopia and blurred vision without weakness of extrinsic ocular muscles. With increasing symptoms of visual difficulty, 4 days later thioridazine was discontinued and chlorpromazine 400 mg. o.d. was started. Her symptoms became more intense and she complained of persistent diplopia, headache and thickening of her speech. On May 20 examination of her ocular fundi showed severe bilateral papilledema with hemorrhages and edema of the retina. All other cranial nerve function was intact. There were no sensory abnormalities. There were no pyramidal tract signs elicited.

All medication was stopped. A spinal tap on May 24 showed an opening pressure of 320 mm. and closing pressure of 150 mm. with open flow. The protein was 56 mg.%, chlorides 121 mg.%, glucose 72 mg.% and there were 237 fresh RBC's in the fluid. The cerebrospinal fluid and blood serological test for syphilis were both negative. X-rays of the skull were normal except for calcification of the petroclinoid ligament. An EEG May 26 showed mild focal dysfunction manifest by a small amount of delta (4-6 cps) of low voltage in bursts on the right side chiefly posteriorly and occasionally on the left side. This was not changed by hyperventilation. A pneumoencephalogram showed the ventricular system to be moderately and diffusely enlarged within the upper limits of normal and there was no displacement of the ventricles. Analysis of the fluid removed revealed a protein of 22 mg.% and no cells. Twenty-four hours following intra-

venous administration of 300 microcuries of radioactive iodinated serum albumin the skull was scanned for evidence of abnormal foci of radioactivity and no foci were found. Venous oxygen saturation was 95.4% which is consistent with cerebral edema.

The patient improved steadily over the next 2 months so that on July 6 the discs were observed to be flat and no new hemorrhages were seen. On September 16 her visual acuity was 20/300 in right eye and 20/30 in the left eye. There was macular degeneration of the right eye and a central scotoma in the left eye which could be accounted for by localized retinal scarring. There was no significant alteration in pigmentation in either ocular fundus.

DISCUSSION

In pseudo-tumor cerebri, after infection and trauma are excluded, there remains a group whose etiology is undetermined. Employing the criteria of increased intracranial pressure, papilledema, normal spinal fluid protein and cells, normal pneumoencephalogram and recovery, this patient fits the classification of pseudo-tumor cerebri. The electroencephalographic changes noted in this case are more abnormal than those reported by Davidoff.

The ophthalmological response was considerably more cataclysmic than has previously been noted with drug therapy and may represent a more severe degree of retinal edema and hyperemia noted elsewhere (3, 4, 5). The retina is an integral part of the central nervous system, and thus offers a useful locus for the observation of changes induced by drugs affecting the CNS. Whether the clinical picture presented does represent a drug reaction, and whether this reaction was referable to either thioridazine or imipramine cannot be proven in this single case. It would be of importance to look for other cases of ophthalmological reactions to the psychotropic agents and to investigate patients presenting with pseudo-tumor cerebri for a history of drug ingestion.

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EXTREME EOSINOPHILIA DURING IMPRAMINE THERAPY

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The effectiveness of imipramine (Tofranil) as an anti-depressant agent is now established. Side effects are well documented and may be expected in a proportion of treated cases. Investigators(1,2) have reported white count elevations during treatment ranging from a mild transient leucocytosis to a total white count in excess of 20,000. Hippus(3) has observed a significant increase of eosinophils, though not in excess of 5%, which is followed by a decrease as treatment is continued. We wish to report an unusual eosinophilic reaction with imipramine during the course of treatment of a depressed patient.

A white woman, aged 50, was first examined at the University Hospital on November 9, 1960. Her chief complaint was inability to sleep for the past 4 or 5 years. In addition, she had a poor appetite, was about 14 pounds under weight, and stated that she was extremely tense. Her husband noted that she was very irritable and had gradually withdrawn from her usual social contacts. There had been occasional episodes of tearfulness. In an effort to deal with her symptoms, she had relied heavily on various tranquilizers, sedatives, and alcohol. Her general physical and neurological examination was not unusual except for tremulousness of the hands. The urinalysis was normal. Blood examination: Hb. = 14 grams, W.B.C. = 10,000, polymorphonuclear leucocytes = 54, lymphocytes = 45, and monocytes = 1. Skull and chest X-rays were normal. An EEG was interpreted as showing abnormal fast activity probably due to excessive medication.

Psychiatric consultation was obtained, and a diagnosis of involutional depressive reaction was made. The patient was placed on imipramine (Tofranil) 150 mg. daily, with small doses of sodium amytal if needed. In her sec-

ond visit, 2 weeks later, the patient was much improved and the dosage of imipramine was reduced to 100 mg. daily. The W.B.C. was 9,400. She was seen again December 16, 1960, and was judged so improved that further reduction in the medication could be made. That evening she noted some stiffness of the neck but was able to sleep. The next morning she could not bend her neck, had a severe generalized headache, and was nauseated. She was admitted to the University Hospital later in the day. Her only findings on admission were a rigid neck and excessive perspiration. Her temperature was 99.2, pulse 64, and blood pressure 140/85. Urinalysis was normal. Blood examination: Hb. = 14 grams, W.B.C. = 30,000, polymorphonuclear leucocytes = 21%, lymphocytes = 18%, and eosinophiles = 61%. Because of the stiff neck and elevated W.B.C. a lumbar puncture was done. The pressure was normal, there were no cells, the Pandy reaction was negative, protein = 40 mg.%, and sugar 52 mg.%. A chest X-ray was normal. Her medications were discontinued. She remained afebrile, and within 2 days felt much better and her neck was supple. Repeat examination of the blood 2 days after her admission showed a drop of the W.B.C. to 26,350 and of the eosinophiles to 31%. A bone marrow examination showed a marked eosinophilia of approximately 50-60% of the cellular elements. No immature cells of the myelocyte series were noted. Trichinella skin test was negative, and there was nothing in her history to suggest a parasitic or helminthic infestation. The blood lupus erythematosus preparation was negative.

She continued to improve, and was dismissed 4 days after her admission. The W.B.C. at that time was 15,450 with 32% eosinophiles. Eight days later in an outpatient examination, the W.B.C. was 7,100 with 10% eosinophiles, 62% polymorphonuclear leucocytes, 1% basophiles, and 27% lymphocytes. Twenty-one days after discharge from the hospital, the W.B.C. was 11,150 with 3% eosinophiles, 65% polymorphonuclear leucocytes, 28% lymphocytes, and 4% monocytes. The red blood count was

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4,490,000 and the Hb. was 13.6 grams. She had not been on any medication for this period of time except for some chloral hydrate capsules for sleeplessness. The symptoms of depression were starting to recur.

DISCUSSION

The eosinophilia in this patient was remarkable in its severity and prompt disappearance after discontinuing drug therapy. While very slight elevation of the eosinophils has been reported with imipramine, such a startling alteration in the blood elements has not, to our knowledge, been observed. An attempt was made in this patient to rule out the common causes of

eosinophilia. However, the rapid return of the bloods elements to their normal values after discontinuing drugs served as the best means of differential diagnosis from other causes of eosinophilia such as Loeffler's pneumonia, eosinophilic leukemia, parasitic infestation, and collagen vascular disease.

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LOSS OF EJACULATION DURING MELLARIL TREATMENT

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This report concerns 3 patients who experienced loss of ejaculation during Mellaril treatment. Such an effect had, to the best of my knowledge, not been encountered or reported in connection with any other phenothiazine compound.

Case 1. A 45-year-old engineer, twice divorced, was referred to me by the company physician because he had manifested personality problems which interfered with his effectiveness as an employee. The clinical examination revealed him to be very tense, suspicious and fearful. Because he had divorced his second wife against the dogma of her church, he felt persecuted by spies sent to this country by the Vatican. Although very reserved and mistrustful he began to relate well in therapeutic sessions. Thorazine was prescribed to attenuate the paranoid tension and to control his hostile outbursts which endangered his position. After several weeks he suddenly discontinued treatment, complaining to his family physician that the Thorazine had seriously disturbed his mental capacities. Since he had shown improvement during treatment but became worse after termination, his company insisted that he continue treatment or leave his job. He returned to my office and complained of very severe and disabling insomnia and demanded medication. In view of his antagonism to Thorazine, I pre-

scribed Mellaril, 100 mg. in the afternoon and at bed time daily. This patient's love life consisted of weekly visits to the same prostitute whom he had favored for several months. On the occasion of his first intercourse with her after taking Mellaril, he reached orgasm but had no ejaculation. He became very upset when he saw me again, felt sure that this was a drug effect and accused me of depriving him of his manhood. I interpreted his complaint as a psychological maneuver and assured him that this had nothing to do with his medication.

Case 2. A 40-year-old married man consulted me because of lack of energy, depressive moods and fears of impotency. Being married the second time, he was father of 4 children. Although he worked every day and was, in fact, quite compulsive about the performance of his duties, he complained of marked tiredness and apathy throughout his working hours followed by anxiety and restlessness in the late afternoon and evening. Clinical examination revealed evidence of a mild depression. I prescribed Dexamy, 5 mg. in the morning and at noon and Mellaril, 50-75 mg. in the early afternoon and evening. When he visited my office a week later, he complained of absence of ejaculation. Although he had experienced difficulties with erection in the past, intercourse had always been normal once he had been able to insert his erect penis into the vagina. He was therefore puzzled about the missing ejaculation and he attributed this to the medication.

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Case 3. This 36-year-old married patient was referred by his attorney because of a trial in which he was charged with repeated sexual relations with one of his daughters. His wife complained that he had always been "over-sexed." On the advice of the court, wife and children left him for a probational period during which he was ordered to seek psychiatric treatment. Personality study revealed him to be an aggressive and impulsive individual who had never been able to tolerate sexual frustration. Although he had a good work record, his family and social relations had suffered by his explosive and demanding behavior. He began treatment in a mood of anger, resistance and hostility. Mellaril, 100 mg. t.i.d. was prescribed to help him to regain self-control. Since he wanted to remain faithful to his wife in the hope of a later reconciliation, he satisfied his strong sexual desires by masturbation. Within a week of taking Mellaril he not only observed a lessening of sexual desire but commented that he had "no secretion" when reaching a climax by masturbation. He wondered whether this had been an intended part of the treatment.

The 3 cases are represented in the chronological order of their occurrence. In the first instance, I was misled by strongly suggestive psychological evidence to ignore the somatic implications of the complaint.

When the second patient, so utterly different with regards to personality and psychopathology, reported the same disturbance, I gave serious consideration to the evidence of a Mellaril effect. While I had not abandoned all remnants of doubt about the possibility of coincidence, the third case confirmed the existence of a drug-induced functional disorder beyond reasonable doubt. Discontinuation of Mellaril, moreover, promptly restored normal ejaculation in each patient. The occurrence in 3 patients represents a rather high frequency in the small group of private patients whom I have treated with Mellaril. Thus far I know of only one other case reported in the literature.² It would seem unlikely to get complaints about sexual disfunction from hospitalized patients. But this report may alert physicians to investigate further incidences in office or clinic patients.

While an explanation of the underlying mechanisms of the absence of external ejaculation may come from the urologists, there remains the interesting fact of unique differences which characterize the otherwise similar action spectra of phenothiazine compounds.

² Singh, H. : *Am. J. Psychiat.*, 117 : 1040, May 1961.

INHIBITION OF EJACULATION AS A SIDE-EFFECT OF MELLARIL

MICHAEL GREEN, M.D.¹

I would like to comment on the clinical report by Dr. Singh (volume 117, page 1041, of the *Journal*), "A Case of Inhibition of Ejaculation as a Side-Effect of Mellaril," to provide an explanation of the probable mechanism of this side-effect.

In the January, 1954 issue of *The Connecticut State Medical Journal*, Dr. Sidney Berman and I reported on the "Failure of Ejaculation Produced by Dibenzylamine," a side-effect clearly produced by that drug in 4 of a series of patients to whom it was administered experimentally to observe its effects on the symptoms of various anxiety syndromes. The clue to the mode of action of this potent adrenolytic agent in produ-

ing the side-effect was provided by reports in the neuro-surgical literature of the same phenomenon occurring in some cases following bilateral thoracolumbar sympathectomy. The explanation of this untoward effect is seen as based on the complex physiology of ejaculation which may be summarized as follows : while the striated muscles of the penis are under control of the spinal nerves and, therefore, would remain unaffected by sympatholytic agents, the peristalsis of the vasa deferentia, seminal vesicles, and ejaculatory ducts which discharge semen into the urethra is induced by efferent impulses from the hypogastric plexuses which derive from the thoracolumbar (sympathetic) outflow. A potent sym-

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patholytic agent would produce failure of ejaculation by blocking these adrenergic impulses at the neuro-effector junction. Since the phenothiazine compounds all include, among their pharmacological effects,

a greater or lesser degree of adrenergic blockade, it may be assumed that Mellaril, one of this group, produced the side-effect in question by way of the mechanism described.

ANOTHER CASE OF INHIBITION OF EJACULATION AS A SIDE EFFECT OF MELLARIL

JOSEPH HELLER, M.D.¹

A 40-year-old white male patient, schizophrenic reaction, paranoid type, has been in group therapy for one year. At first he was extremely rigid and unable to relate any feelings. During the past 2 months, however, he began to verbalize intense feelings of bitterness and anger. He declared that at times his rage reaches such propelling force that he shouts out loudly when alone. He was afraid of being unable to control this anger and that it might lead to conflict with others. He was, therefore, placed on Mellaril, 25 mg. t.i.d. After having taken this medication for one week he reported feeling much more relaxed and less bothered by his anger, although still aware of its seething quality. He did complain about excessive drowsiness. The dosage, consequently, was de-

creased to 10 mg. t.i.d. The following week he stated that his drowsiness had passed, but mentioned another side effect which he had originally estimated to be unconnected with the drug intake. Three days after the start of his medication, he noticed that his ejaculatory powers were gone although there was no decrease in his sex desires. He had "the sensations and the climax but ejaculation was lacking." Nevertheless, even without ejaculation he felt more relaxed. Patient was advised to discontinue Mellaril for one week, but because of the good relaxing effects he disobeyed this order. Inability to ejaculate persisted. He was again urged to discontinue Mellaril and meproamate was substituted. The following week he reported that after 2 days his ejaculation had returned and remained active. Another attempt was made with Mellaril resulting in a repetition of original events.

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HISTORICAL NOTES

BENJAMIN RUSH'S SON

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Benjamin Rush, patron saint of the American Psychiatric Association, had a son whose psychiatric contributions have received unjustifiably limited notice. In historical surveys of American Psychiatry(1, 3) James Rush is not mentioned. Wells(8) notes that his main book is not even in the Library of Congress.

James Rush (1786-1869) was the second of 13 children born to Benjamin and Julia Rush. From 1805-1809 he was a medical apprentice to his father, also attending the University of Pennsylvania where Benjamin Rush was professor of chemistry. Wishing to follow his father's medical itinerary, in 1809 at age 23, he left for Edinburgh to complete his medical training, returning to Philadelphia in 1811, where he practiced medicine until his death.

In 19th century medicine James Rush was widely known for his work on phonetics, his textbook(7) becoming a standard work and going through 7 editions. A man of wide literary and cultural pursuits(6), his main interest was psychology. He began planning his study "An Analysis of the Human Intellect" at the same time as his illustrious father was writing the book(4) that became a cornerstone of American psychiatry. Gathering data for more than half a century, he finally published his major work(5) in 1865, 4 years before his death.

The iconoclastic spirit that involved Benjamin Rush in revolutionary activity(2) is evident in his son. James Rush was a tempestuous and extremely complex man who had contempt for metaphysics and mediocrity. He was passionately interested in logic, emphasizing that accumulated experience was wasted unless it was systematized. He spoke of the contemporary medical climate as "this age of medical pretensions and professional trifling," and made many

enemies. Influenced in Scotland by Dugold Stewart, he was philosophically 50 years ahead of his time, championing the logic of the pre-Socratics while railing against Aristotelian syllogisms.

Despite these varied interests, James Rush spent his life trying to understand the workings of the mind. Utilizing his background in phonetics, he first sought the understanding of mental phenomena in the interrelationship between speech and thought. By emphasizing the importance of sensation, Rush adhered to the tradition of Locke's "tabula rasa." Human knowledge was derived solely from sensory experience. Rush postulated that thinking arose as a physical function produced by sensory data on the brain. Sensory perceptions determining mental functioning were of 3 types: 1) primary perception; 2) memorial perception; 3) joint perception. Primary perceptions were the first constituents of mental life; the brain perceived outer sensory stimuli in temporal sequence, registering memorial perceptions—the images and universal types that were left behind when "the things which produced the primary perceptions are removed from before the senses." Only when joint perceptions were received could the relationship between individual images and universal types be learned. Joint perceptions were the combined perception of 2 or more primary and/or memorial images.

Rush believed that all mental functioning, in health and disease, could be explained by using this schema. An orderly registering of sensory experience enabled the human being to gain a sense of time and space. Language developed as a series of verbal signs for every primary perception. By imitation, the human voice was able to transmit these verbal signs of primary perception.

Dreams and insanity were explainable in James Rush's conceptual framework. In dreams primary perception did not exist;

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the dreamer recalled only memorial perceptions. Anticipating Freud by 35 years, Rush equated the perceptual disturbance in insanity with that seen in dreams, stating that in one type of insanity, which he called memorial insanity, dream-like states were perceived as if they were real. Insanity was defined as an inner perceptual disturbance containing no external disturbing elements.

Not content with explaining the mind and its disorders, James Rush next attempted an early form of character analysis. Unfortunately, his hostile temperament got the better of him, and he used the second part of the book to vent many prejudices. Sample headings included explanations "Of the Popular and Conforming Mind of the Physician," and "Of the Contracted Mind of the Priest." The volume ends with an analysis of Shakespeare's character, concluding that Shakespeare's perceptions, like those of all creative geniuses, were involuntary and inexplicable.

Like his father, James Rush was a brilliant rebel, full of prejudices yet blessed with rare imagination and psychological acumen. He

predicted that his books would "lie on the dusty shelf." Unfortunately this proved true, and posterity has not taken notice of his unique talents.

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PSYCHOTHERAPY BY RECIPROCAL INHIBITION

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In the past decade there has been a growing interest in relating the practice of psychotherapy to the principle derived from experiments on learning. Dollard and Miller's book on *Personality and Psychotherapy* (1), published in 1950, did much to stimulate interest and is something of a classic in this field. Another major contributor has been O. H. Mowrer, who has written extensively on this topic (2). A number of articles, too, have been published in the last few years, recording specific cases or therapeutic techniques (3, 4, 5). These techniques have been drawn from such learning theory concepts as conditioned aversion, desensitization and massed practice.

Reciprocal inhibition, one of these specific techniques, was the subject of a book by

Wolpe published in 1958 (6). The principle that goes by this rather forbidding title is that of extinguishing one response by eliciting another, incompatible response. Wolpe describes the actual use of this principle with a number of patients, chiefly suffering from anxiety reaction, phobic or obsessive-compulsive neurosis, and he reports very impressive results with the technique.

It is interesting to find that our predecessors of a century ago made use of the same psychotherapeutic artifices, though they did not foresee their theoretical significance. A paper (7) presented at the Royal Academy of Medicine in Paris in 1845 describes the treatment of a patient by means of some special manoeuvres, one of which was clearly "reciprocal inhibition."

The author of the paper was F. Leuret, a physician at the Bicêtre, and an ex-pupil of Esquirol. His report concerns the case of

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Thierry, a 30-year-old wine merchant, admitted to the Bicêtre in 1843 with a 10-year history of obsessional thoughts. These had become so bad that he was no longer able to carry on his business. Leuret describes vividly how he laid down the treatment plan to his intern, M. Marcel, along lines taught him by Esquirol. He and the intern played two contrasting roles with the patient. Leuret was stern and demanding, while the intern was the patient's friend and comforter, and appeared to side with him against Leuret.

Shortly after Thierry's admission, Leuret accused him of being lazy, since he found him lying in bed when he made rounds, and ordered him to find some work to occupy him. Leuret also refused to increase Thierry's ration of food, which apparently upset him considerably. After rounds, the intern went back and advised Thierry to read, and learn songs which he could recite to Leuret the next day, and promised to double his food ration without letting Leuret know. Thierry at first rejected this idea, saying that he could never learn a song because of the interference of his "ideas," but the intern went, leaving the impression that he relied on Thierry to follow his advice.

The next day Thierry had made a fair attempt to do the work, but Leuret acted as though he was unimpressed and demanded that he work much harder. The intern was sympathetic with Thierry, but pointed out that they would both get into trouble if Leuret found that his food ration had been increased and he had not done the work expected of him.

The third day, Leuret was again unimpressed with the amount of reading Thierry had done, and his attempts to recite, and angrily cut the food allowance on finding the intern had increased it. By the following day Thierry had learnt a few lines to recite, and had done quite a bit of reading. Leuret seemed satisfied, and ordered that the food allowance be increased. Thierry was very happy and promised to learn the song he was assigned for the following day. At the next rounds Thierry sang four couplets of the song, but Leuret asked for renewed efforts and for several days after this Leuret acted as though he was far from satisfied and again cut the food allowance.

This regime continued for about 6 weeks, with Thierry's recitals and other work steadily improving, but never quite catching up with Leuret's expectations. Meanwhile, he apparently experienced less and less interference in his

assigned tasks from his obsessional thoughts, and tended less and less to repeat himself in his recitals. At the end of the 6 weeks Leuret asked him about his repetitive ideas and Thierry told him that he had not had them for several days, and that he felt much better. After 2 more weeks in the hospital Thierry was discharged, still greatly improved. Leuret found him work as a nurse to one of his patients, and he reported that a year later Thierry was well and a very successful nurse.

In discussing his method of treatment Leuret confines himself to one very interesting problem, the question of the mentally ill patient's motivation to get well. He points out that the physically ill patient often seeks out instinctively what will relieve his sickness, *e.g.*, the rheumatic patient will rest, while the mental patient tends to do what will make him worse. This raises the question of how the psychiatrist can lead the patient to behavior which will have a salutary, rather than harmful, effect without antagonising or frightening him. Leuret remarks that the physician has to draw on whatever strengths or weaknesses the patient has in order to motivate him to recovery, and he refers specifically to the use of a patient's hunger drive, which he had certainly illustrated in the treatment of Thierry. More generally Leuret comments that the psychiatrist has to be subtle and even devious in bringing patients back to their right mind. I presume that here he is referring to the use of such manoeuvres as the role-playing that he and his intern carried off with such effect in the handling of Thierry.

Leuret does not specifically discuss his technique of blocking the obsessional thoughts of his patient by inducing him to do hard mental work, though, as I have indicated, he was well aware of how the patient's "drive state" had to be manipulated in order to do this. In a general way, this substitution of a healthy activity for pathological behaviour was a guiding principle of the "moral treatment" era, which relied heavily on farmwork, handiwork, edifying lectures and so on, for all classes of patients. But I believe that this report of Dr. Leuret's deserves to be recognised as anticipating our sophisticated psychotherapeutic techniques of today, because he presents a specific tech-

nique to be followed with a specific type of patient, rather than a general method for use with all patients. The resemblance between Leuret's method and that which Wolpe describes in his book *Psychotherapy by Reciprocal Inhibition* is very striking. In fact it would seem that Leuret unwittingly used exactly the same principle, and with the same kind of patient.

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COMMENTS

SOVIET PSYCHIATRIC NOMENCLATURE

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AND JASON ARONSON, M.D.³

As cultural contacts between East and West continue to expand, it becomes increasingly important for the two sides to be sure they speak the same scientific language, *i.e.*, that the words and phrases, once they have been translated, mean the same things. It is particularly critical, in making cross-cultural surveys or comparative studies, that we do not compare apples with pears, and make judgments accordingly. The visit of two eminent Soviet psychiatrists⁴ to New York City (who were part of a six man delegation to a Joint Meeting of the Academy of Medical Sciences of the USSR and the New York Academy of Sciences) afforded us a unique opportunity to discuss two papers on Soviet psychiatry (1, 2) we recently had written. We questioned them at some length on problems that we had some doubts about and particularly discussed one question that often proves most baffling in comparative work: that of diagnostic categories or labels. It is generally accepted that this is a problem that plagues us at home when we compare statistics issued by two different authorities, or even two different hospitals. In international contacts and comparative research the problem is compounded by the problem of translation, cultural differences and dissimilar psychiatric and therapeutic orientations. For example, no reports equivalent to *Patients in Mental Institutions* issued by the Department of Health, Education and Welfare, Public Health Service could be found for the Soviet Union. Our queries on the subject brought forth the response that statistics were available "somewhere," but that for reasons our respondents did not presume to understand these were not being made

public by the Ministry of Health USSR, the logical authority to do so. The one table on hospitalized patients in the Soviet Union we had been able to find had been published by Professor Snezhnevskii but was extremely poor and vague since it purported to represent percentages of "hospitalized patients" (1950-1954) and yet did not give: 1. total numbers of patients the figures represented; 2. breakdowns by age; 3. by sex; 4. by area; 5. by admissions, readmissions, discharges and death. While our respondents deplored the lack of better statistical data, they did shed some light on the question of diagnostic categories. Our comparisons had been hampered by the fact that the Soviet sources listed either 17 or 19 such categories as against the more than 30 used in the American standard nomenclature. We were interested in finding out whether the manner in which we had collapsed the U. S. categories into the Soviet ones was essentially correct. It emerged from the conversation that this had been the case except for a few minor points. It was suggested, for example, that our assumption that the American "Birth Trauma" category which we had classified under the Soviet category of "Traumatic Psychoses" would better fit under the Soviet category of "Oligophrenia."

One of the most interesting and unexpected placement of patients was in respect to the group we know as paranoid states or paranoia. Since no such category is used in the Soviet statistics we had surmised that they would be subsumed under schizophrenia.

According to our respondents, however, patients with fixed but limited paranoid delusions who are free of hallucinations and who show no "primary changes" belong under classification 18 (reactive disorders) since this is where, in the Soviet Union, transient paranoid episodes and paranoia are listed. There must be other changes in

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⁴ Professors O. V. Kerbikov and A. V. Snezhnevskii of Moscow.

Standardization of Soviet and American Psychiatric Diagnosis

SOVIET CATEGORIES *	AMERICAN CATEGORIES * (CODE NO.)
1. Schizophrenia	Schizophrenic reactions (22)
2. Epilepsy	Acute brain syndrome associated with convulsive disorders (05). Chronic brain syndrome associated with convulsive disorders (16).
3. Manic-depressive psychosis	Affective reactions (21).
4. Brain circulatory disturbances or cerebral arteriosclerosis and other circulatory disorders	Acute brain syndrome associated with circulatory disturbances (04). Chronic brain syndrome associated with circulatory disturbance (15).
5. Pre-senile psychoses	Involuntional psychotic reactions (20).
6. Senile psychoses	Chronic brain syndrome associated with disturbances of metabolism, growth or nutrition; with senile brain disease (17.1).
7. Lues or cerebral syphilis	Chronic brain syndrome associated with central nervous system syphilis: Meningovascular (11.1). Other central nervous system syphilis (11.2).
8. Progressive paralysis	Chronic brain syndrome associated with central nervous system syphilis: Meningoencephalitic (11.0).
9. Psychosis with infectious or virus diseases or infectious psychosis	Acute brain syndrome associated with infection (01). Chronic brain syndrome associated with intracranial infection other than syphilis (12).
10. Intoxication psychoses	Acute brain syndrome associated with intoxication: Drug or poison intoxication, except alcohol (02.2). Chronic brain syndrome associated with intoxication: Drug or poison intoxication, except alcohol (13.1).
11. Alcoholic psychosis and chronic alcoholism	Acute brain syndrome associated with intoxication: Alcohol intoxication (02.1). Chronic brain syndrome associated with intoxication: Alcohol intoxication (13.0). Sociopathic personality disturbance: Alcoholism (addiction) (52.3).
12. Narcomania	Sociopathic personality disturbance: Drug addiction (52.4).
13. Mental disorders with diseases of the internal organs	Acute brain syndrome associated with metabolic disturbance (06). Chronic brain syndrome associated with disturbance of metabolism, growth or nutrition; with other disturbance of metabolism, etc., except pre-senile brain disease (17.3)
14. Mental disorders (including neuroses) with brain trauma	Acute brain syndrome associated with trauma (03). Chronic brain syndrome associated with trauma: Brain trauma, gross force (14.1). Following brain operation (14.2). Following electrical brain trauma (14.3). Following irradiational brain trauma (14.4). Following other trauma (14.5).
15. Psychoses with organic trauma	Acute brain syndrome associated with intracranial neoplasm (07). Chronic brain syndrome associated with new growth (18).
16. Oligophrenia (including birth trauma)	Chronic brain syndrome associated with diseases and conditions due to prenatal (constitutional) influence (10). Chronic brain syndrome associated with trauma—Birth trauma (14.0). Mental deficiencies (60-62).
17. Psychopathy (ies)	Sociopathic personality disturbance: Antisocial reaction (52.0). Dy-social reaction (52.1). Sexual deviation (52.2).
18. Neuroses, psychoneuroses and reactive disorders	Paranoid reactions (23). Psychophysiologic autonomic and visceral disorders (30-39). Psychoneurotic disorders (40). Personality pattern disturbance (50). Personality trait disturbance (51). Special symptom reaction (53). Transient situational personality disorders (54).
19. Others: neuropsychiatric, examination cases, and undetermined diseases	Acute brain syndrome with disease of unknown or uncertain cause (08). Acute brain syndrome of unknown cause (09). Chronic brain syndrome associated with disturbance of metabolism, growth or nutrition. Pre-senile brain disease (17.2). Chronic brain syndrome associated with diseases of unknown or uncertain cause; chronic brain syndrome of unknown or unspecified cause (19). Psychotic reaction without clearly defined structural change other than above (24).

* According to Snezhnevskii, "Dispensary Method of Registering Psychiatric Morbidity and the Soviet System of Psychiatric Service," *Living Conditions and Health*, v. 1, No. 4, pp. 236-241, 1959.

* According to American nomenclature(3).

personality beside the paranoid delusion in order to establish a diagnosis of schizophrenia. In the absence of such changes, it is assumed that the paranoid delusions are psychogenic.

In psychiatry more than in any other medical field a direct translation of diagnostic terminology is not completely satisfactory. Translation must be supported by an understanding of the different cultures, political

institutions, medical organizations and social structures of these two industrial societies. In the psychiatric field this understanding can come from an extensive reading of the literature, both medical and non-medical, from direct contacts and interviews between American and Soviet specialists, and from stays of at least 6 months or more in each other's country. Brief contacts, 30-day whirlwind tours, and presentation of papers at international meetings can only serve to begin the personal bridges over which long-term relationships can be established. In any case mankind can only benefit from increased contacts between medical men of East and West, as their concern is always a common one.

The table opposite lists usual Soviet diagnostic categories and corresponding APA categories(3) in parallel columns.

Copies of a table comparing the USPHS and Soviet categories as well as the categories proposed by Kerbikov, Ozeretskii, Popov, and Snezhnevskii in their recent *Textbook of Psychiatry* can be obtained by writing to the authors.

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LIFE LINE

Blow on the coal of the heart.
 The candles in churches are out.
 The lights have gone out in the sky.
 Blow on the coal of the heart
 And we'll see by and by . . .

—ARCHIBALD MACLEISH

OFFICIAL REPORT

REPORT OF THE CHAIRMAN OF THE BOARD OF TELLERS

The Board of Tellers of the American Psychiatric Association here presents the successful candidates as determined from counting the recent mail ballot.

For President-elect, Dr. C. H. Hardin Branch of Salt Lake City, Utah.

For Vice-President, Dr. Henry W. Brosin of Pittsburgh, Pennsylvania.

For Vice-President, Dr. Titus Harris of Galveston, Texas.

For Secretary, Dr. Harvey J. Tompkins of New York, New York.

For Treasurer, Dr. Addison M. Duval of Jefferson City, Missouri.

The contest for Councillors was strikingly close. Of the six candidates presented by the Nominating Committee, the five highest scores showed a spread of only 630 out of 5000 votes!

This may well be considered a credit to the Nominating Committee and to the thoughtful voting of our membership.

You have elected for Councillors:

Dr. Alfred Auerbach of San Francisco, California.

Dr. Herbert S. Ripley of Seattle, Washington.

Dr. Cecil Wittson of Omaha, Nebraska.

The statistical report of the Board of Tellers has been filed with the Secretary of the American Psychiatric Association at the central office.

Our President, Dr. Robert H. Felix, on transferring the gavel into the able hands of our incoming President, Dr. Walter E. Barton, becomes a voting member of Council by constitutional provision.

The Board of Tellers is indebted to our Executive Assistant, Mr. Austin Davies, and to his staff of the New York office for their efficient service as Custodian of Ballots and for their generous and gracious cooperation in serving as members of the vote-counting teams.

I should like to express appreciation to each member of our Association who relayed their reactions to the election procedures through comments on ballots, in

letters, or in conversation. These communications enabled the Board to make recommendations based upon the opinions of APA members.

A brief review will remind us of the changes in election procedure within the last 10 years, to adapt to the developing requirements of a rapidly growing organization. Our membership has almost doubled within this decade.

For many decades open poll voting at the Annual Meetings presented an increasing problem. Furthermore, it limited the franchise to those attending the Annual Meeting, a small proportion of the total membership. Constitutional changes provided the mechanism for the first mail ballot in 1952.

The report of the Board of Tellers in those years was rendered at the Annual Meeting on a large blackboard with each name and its numerical count. For obvious reasons, change was indicated. In 1958, constitutional amendments provided that the Board of Tellers should announce the successful candidates only. The complete statistical report of the Board of Tellers with numerical data was to be filed with the Secretary of the Association where it would be available to individual members upon request.

Beginning with 1958, the Chairman of the Board of Tellers, aware of the feeling about election mechanics through comments and personal communications, conducted interviews with American Psychiatric Association members to obtain constructive opinions. Individuals from many geographic areas as well as different classes of membership, and with varying types of experience within the APA were included in the sample. Recommendations based on the information obtained as well as on the awareness of the increasing burden for the Board of Tellers were considered by Council.

In 1960 the Council approved three changes:

1. That the ballots for officers offer the member a choice of unit affirmation of the

panel proposed by the Nominating Committee or the opportunity to vote separately for individual officers.

2. That the Chairman of the Board of Tellers be consulted about the format of the ballot to facilitate counting.

3. That biographic data for nominees be included on the ballot. "The biographic data would consist of : the individual's present position, any APA Committee Chairmanship and elected positions held in the past ; and positions held in the Assembly of District Branches."

This year 55% of the ballots mailed were returned.

Of the voting members, 96% utilized the unit vote for officers.

Only two ballots for councillors indicated that the member felt he had insufficient knowledge upon which to base a decision.

To answer some of the questions frequently raised, the Chairman of the Board of Tellers made a study of the tallies for the past 5 years. This has revealed enough correlation between election and ballot position to warrant further consideration. With respect to contested Councillor elections, the most dramatic finding can be told simply.

No candidate in the number 1 position ever lost ! That is, the candidate first on the ballot (position 1) won consistently in each of the 5 years. Since candidates are arranged alphabetically (according to constitutional provision), a member whose last name begins with a letter near the head of the alphabet gains undue advantage.

The member in position 3 was successful in 4 out of 5 elections.

Does this mean that the candidate at the bottom of the alphabet is also at the bottom of the tally ? No, it doesn't. The candidate listed last on the ballot won 3 out of 5 years. Of these 3 years, only twice did the Nominating Committee offer six candidates (1957 and 1961). The candidates in that position won both times, representing a 100% success for position 6. The nominee in the 5 position won 2 out of 5 years as did the member in the number 2 spot.

There was, however, a hard-luck spot. That was position 4. *No candidate in position 4 ever won an election !*

The 1961 election was no exception. As mentioned above, only 630 votes separated the

top candidate from the next to the bottom one. But, 600 votes separated the latter from the low man who, as usual, was in position 4.

Position 1, 2, and 3, traditionally supposed to be the winning combination, has been so only twice during the past 5 years. In both instances there were five nominees.

Similarly, positions 1, 3 and the last position on the ballot have been winners twice ; in 1957 when there were six nominees and in 1959 when there were five.

The 1st, 5th and 6th candidates listed on the 1961 ballot won (positions 1, 5, & 6)—the only success for this combination of positions.

On May 7, 1961, I presented this report to Council. In view of the apparent advantage of positions 1 and 3, and the disadvantage of position 4, I recommended that the APA abandon the current practice of alphabetical listing of candidates. Council received this recommendation understandingly, and is working on plans for its implementation.

The role of alphabetical position may be shown in another way. Of total APA membership, 64% have names in the A to M bracket, and 36% have names in the last half of the alphabet. If alphabetical position did not play a role, one would expect that our officers and Councillors would show about the same distribution : 64-36.

But 12 of the 15 elected Councillors—that is 80%, belong in the first half of the alphabet. And our present Officer-Councillor leadership shows a 73-27 distribution instead of the theoretically expected 64-36 ratio. Two of the three Councillors making the 20% minority (N-Z) referred to above were elected in 1961.

The fact that all three of 1961's victors were from the West raises the question of geographical distribution.

The new members of Council will effect some shift in the present proportion of 74% from the east and 26% from the west of the Mississippi, among our present officers and members of Council (30 in all).

Four of our current officers and members of Council, or 13%, are from south of the Mason and Dixon line. The remaining 87% includes two from Washington, D. C. and one from Canada.

The distribution of our governing body according to area is :

Area 1—Twelve : six voting and six ex-officio.

Area 2—Four : all voting.

Area 3—Five : two voting and three ex-officio.

Area 4—Five : four voting and one ex-officio.

Area 5—Four : two voting and two ex-officio.

The Board of Tellers welcomes your continued comments, reactions, and suggestions. Such communications from the membership are of value to our elected leaders in obtaining the pulse of our organization and in prescribing wisely and officially for its continued growth and maturity.

Evelyn Parker Ivey, M.D.,
Chairman.

NO—YES

When words are found to be a roundabout way of communication, the Zen master may utter "Katz!" without giving what is ordinarily considered a rational or intelligible reply.

In the same way, when told that he looks like a dog, he will not get excited and make an angry retort. Instead, he may simply cry "Bow-wow," and pass on.

—D. T. SUZUKI

NEWS AND NOTES

NEW MENTAL HEALTH TRAINEESHIP FOR GRADUATE NURSES.—The traineeship program of the National Institute of Mental Health was recently extended to include an undergraduate traineeship for graduates of diploma schools of nursing who are interested in a career in psychiatric-mental health nursing. These traineeships are available in schools participating in the National Mental Health Training Program, and provide an annual stipend of \$1,800 plus such tuition and registration fees as required by the educational institution.

This program continues to provide several levels of traineeship support for nurses seeking specialized graduate preparation in universities offering programs to prepare individuals for expert clinical practice, teaching, administration, consultation and research in colleges and universities, and in hospitals and community and public health agencies. Stipend support is provided for training leading to the master's and doctor's degrees.

For further information write to the Training Specialist in Psychiatric Nursing, Training Branch, National Institute of Mental Health, National Institutes of Health, Bethesda 14, Md.

CANADIAN MENTAL HEALTH ASSOCIATION ANNUAL MEETING.—Growing public interest in the field of mental health was indicated by the impressive attendance at the 43rd annual meeting of the Canadian Mental Health Association, June 1, 1961.

The program was significant in that its total focus was on the Association's scientific research program. Scant attention was paid to the traditional emphases on improving mental hospital care and the volunteer services to the sick. The program attracted a large group of people from the social, industrial and business leadership of Canada. More than 200 attended the public symposium to hear Drs. Omond Solandt, Noël Mailloux o.p., and Patrick McGeer, discuss research in the field of mental health. In the evening at the Association's annual banquet, nearly 350 people heard

Dr. Daniel Blain, director of California's mental hygiene department.

Accepting chairmanship of the board of directors after serving 6 years as national president, J. S. D. Tory, QC, mentioned that a professional survey 4 years ago gave little encouragement of financial support for the unique approach to research proposed by the CMHA. Each year, however, has shown that contributions to the mental health research fund have been growing. It is anticipated now, that this research plan will prove to be successful and important.

Under the CMHA plan, funds are allocated to *persons*, instead of the traditional pattern of granting to *projects*. The amount is large enough to assure income to the recipient for 3 or 4 years and it is paid directly to him. In this period the scientist is totally free to follow whatever leads develop from his research, without having to redefine the work in which he is engaged. Dr. Mailloux, a psychologist, and Dr. McGeer, a psychiatrist and biochemist, were the first beneficiaries of the Fund. Dr. Solandt, a vice-president of Canadian National Railways and formerly director of Canada's Defence Research Board, was director of the Fund in 1960.

Dr. Blain's address reported on the philosophy and growth of community mental health services in California.

Growth of the Canadian Mental Health Association was highlighted in a review by the President of his 6 years of service. From less than 2000 in 1954, the membership had grown to 125,000 in 1960. Income had increased from about \$100,000 in 1954 to \$700,000 in 1960.

The Association's annual report—an 8-page summary designed for ready reading—was presented at the meeting and is now available upon request by writing to the Association at Box 555, Toronto 5.

AMERICAN ACADEMY OF CHILD PSYCHIATRY.—At the recent annual meeting of this Society in Chicago Dr. James M. Cunningham of Dayton, Ohio, was installed as

president and Dr. Reginald S. Lourie, head of psychiatry at Children's Hospital, was named president-elect. Dr. Joseph Weinreb was elected secretary and Dr. Abram Blau, treasurer.

THE MODERN FOUNDERS.—Dr. and Mrs. Francis Gerty were hosts at the annual luncheon meeting on Wednesday during meeting of the APA. The speakers included Doctors Barton, Bond, Lebensohn, Ross, and Mr. O'Mara, the new APA Librarian-Archivist.

New Founders awarded certificates were : Doctors A. Auerback, Ed. Billings, Hardin Branch, Hamilton Ford, Walter Obenauf, John Saunders, and Harry Solomon.

Officers elected for the coming year are : Chairman, Dr. Leo Bartemeier, Vice-Chairman, Mrs. Daniel Blain, and Secretary-Treasurer, Dr. Bob Mearin.

DR. FARQUHARSON TO DIRECT CANADIAN MENTAL HEALTH ASSOCIATION RESEARCH FUND 1961.—Dr. R. F. Farquharson, Professor Emeritus of Medicine, University of Toronto, and chairman of the Medical Research Council of Canada, has accepted the direction of the C.M.H.A. research fund for the coming year. He will select the applicant to receive this annual grant which now amounts to \$25,000.

WESTERN INSTITUTE ON EPILEPSY.—The 13th annual conference of the Western Institute on Epilepsy has been scheduled for October 11 through 14, 1961. These meetings are to be held at the Granada Hotel and Inn at San Antonio, Texas.

The papers will deal with the clinical, biochemical, neurophysiologic, psychological and electroencephalographic aspects of epilepsy.

For information address Frank Risch, Ph.D., Secretary-Treasurer, 3097 Manning Ave., Los Angeles 64, Calif.

AMERICAN PSYCHOSOMATIC SOCIETY.—At the annual meeting of the American Psychosomatic Society April 28-30, 1961, Atlantic City, the following persons took office : President, Stewart Wolf, M.D. ; President-

elect, Julius B. Richmond, M.D. ; Secretary-Treasurer, Eugene Meyer, M.D. ; Elected to Council were, Morton D. Bogdonoff, M.D., Stephen Fleck, M.D., Adrian M. Ostfeld, M.D., Alvin P. Shapiro, M.D.

The 19th annual meeting of the Society will be held March 31-April 1, 1962, in Rochester, N. Y.

KYBERNETIK.—This new Journal, the first issue of which appeared in January, 1961, deals with the "transmission and processing of information and with control processes in both organisms and automata."

It is edited by H. B. Barlow, Cambridge, Eng., M. Halle, W. A. Rosenblith and N. Wiener, Cambridge, Mass., B. Hassenstein, Freiburg i.Br., W. D. Keidel, Erlangen, I. Kohler, Innsbruck, K. Küpfmüller, Darmstadt, H. Mittelstaedt, Seewiesen, Obb, W. Reichardt, Tübingen, J. F. Schouten, Eindhoven, M. Schützenberger, Poitiers, K. Steinbuch, Karlsruhe.

The publisher is Springer-Verlag, Berlin, Göttingen, Heidelberg.

Contributions may be in German or English. Maximum price for 1961: DM 80.

The initial number of *Kybernetik* contains papers on Processing in the Nerve Cell for regulating Voluntary Movements, Letter Constraints within Words in Printed English, Pawlow and his Dog, a Demonstration Model for the "Conditioned Reflex," and four other contributions.

This issue, 56 pp. (9 pp. in English), 72 charts, diagrams, tracings, etc.

ILLINOIS PSYCHIATRIC HOSPITAL.—On March 15, 1961, the following members of the Illinois Psychiatric Society were elected to office for the year 1961-1962 : President, Dr. Melvin Sabshin ; President-Elect, Dr. Lester Rudy ; Secretary-Treasurer, Dr. Harold Visotsky ; Councilors, Dr. Joel S. Handler, Dr. John Adams ; Delegate to American Psychiatric Association Assembly, Dr. Jewett Goldsmith ; Alternate Delegate, Vacant—to be filled in September 1961.

AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY, INC.—The following examinations are scheduled by the American Board

of Psychiatry and Neurology, Inc. : Oct. 9 and 10, 1961—Chicago, Ill. ; Dec. 11 and 12, 1961—New York, N. Y. ; and April 2 and 3, 1962—San Francisco, Calif. *

VESTERMARK FELLOWSHIPS TO BE CONTINUED.—The Smith Kline & French Foundation has announced an additional grant of \$10,000 for the continuation of the APA's Vestermark Fellowships, under which selected medical students are provided with the opportunity for full time work in public mental hospitals during the summer months. This grant brings the amount awarded by the SK&F Foundation to the APA for various fellowships in psychiatry during the past 6 years to \$200,000.

Applications should be submitted directly to the SK&F Awards Committee at the APA Central Office, 1700 18th Street N.W., Washington 9, D. C.

DR. DIAMOND HEADS MANHATTAN STATE HOSPITAL.—Dr. Oscar K. Diamond was appointed Director of Manhattan State Hospital, Ward's Island, effective May 15, 1961.

Dr. Diamond entered the New York State service in 1946 and served as assistant director at Creedmoor State Hospital for 5 years previous to the present appointment.

A. E. BENNETT NEUROPSYCHIATRIC RESEARCH FOUNDATION AWARD.—At the annual meeting of the Society of Biological Psychiatry in Philadelphia, June 11, 1961, Dr. Larry Stein, a research psychopharmacologist at Wyeth Laboratories, Philadelphia, received the A. E. Bennett award of \$500 for his research report on a possible neurophysiological basis of depression.

Dr. Stein was previously associated with the Walter Reed Army Institute for Research and the VA Laboratories in neuropsychiatry.

NATIONAL ASSOCIATION FOR MENTAL HEALTH.—Under numerous and striking gains in this field during the past decade as noted by the president of N.A.M.H., Mrs. Felix Dupont, Jr., in the annual report of the Association, most striking are :

The estimate that patients entering mental hospitals with diagnoses of schizophrenia, manic-depressive or involutional psychosis now have a 65% possibility of returning to community life within a few months.

Also that greater numbers of psychiatric cases are now treated in community-based centers. More than 950 general hospitals in the United States operate psychiatric units. An increasing number of communities have outpatient clinics for both adults and children as well as aftercare centers for the follow-up of patients discharged from hospitals.

OPEN-STAFF PSYCHIATRIC HOSPITALS.—In June 1962 a meeting will be held at the Institute of the Pennsylvania Hospital when the question of open-staff privileges in psychiatric hospitals similar to those in general hospitals will be considered by psychiatrists assembling from a majority of the states.

Dr. Lauren A. Smith, physician-in-chief of the Institute, commenting on the fact that certain psychiatric hospitals, including the Institute of the Pennsylvania Hospital, have made concessions in the direction of open-staff hospitals, indicates the advantage of permitting not only referring psychiatrists but also the family doctor to collaborate with the staff in patients' treatment.

Dr. Walter E. Barton, president of the APA will lead the panel of speakers.

The Smith Kline and French Laboratories of Philadelphia are to underwrite the cost of the meeting.

THE AMERICAN NEUROLOGICAL ASSOCIATION.—At the 86th annual meeting of this Association held in Atlantic City, N. J. on June 12-14, 1961, total registration was 626. The following officers were elected for the year 1961-62 : President, James L. O'Leary, St. Louis, Mo. ; President-Elect, Charles D. Aring, Cincinnati, Ohio ; 1st Vice-President, Francis L. McNaughton, Montreal, Canada ; 2nd Vice-President, Robert S. Schwab, Boston, Mass. ; Secretary-Treasurer, Melvin D. Yahr, New York, N. Y. ; Assistant Secretary, Clark Millikan, Rochester, Minn. ; Editor of Transactions, Melvin D. Yahr, New York, N. Y.

Dr. Harold Wolff was elected to the Council for 5 years ; Dr. Fred Plum for 2 years. Dr. Charles Rupp was appointed representative to the American Board of Psychiatry and Neurology for 4 years, and Dr. Derek Denny-Brown as representative to the National Research Council for 3 years.

The 87th annual meeting will be held June 18-20, 1962 at the Claridge Hotel in Atlantic City, N. J.

THE WESTERN DIVISIONAL MEETING—APA.—The meeting will be held in Salt Lake City, Utah, Sept. 21-24th, 1961. An elaborate program has been provided :

Dr. Hardin Branch will moderate a symposium on the morning of Sept. 22, State Frontiers of Psychiatry, discussed by representatives of the various states.

The Academic lecture will be delivered by Dr. Henry W. Brosin at 1:00 a.m., Sept. 23.

A special feature of the meeting will be a "Tour of the Centre of Scenic America," beginning at 1:30 p.m., Sept. 22, 1961 and including a 7:00 p.m. Western dinner *en route*. The cost of this feature, covering afternoon and evening, is \$10.00 per person.

The West Coast Group Therapy Association meets concurrently Sept. 24, 1961.

CORRECTION

There was an error in the last sentence of the first paragraph of the book review of *American Handbook of Psychiatry*, edited by Silvano Arieti, page 1051, May 1961. That sentence should read :

There are useful contributions by Hans Strauss on Epileptic Disorders, by Henry Brill on Postencephalitic Conditions and on Psychoses with Huntington's Disease by Bigelow, Roizin, and Kaufman.

CREDULITY

Precious perquisite of the race, as it has been called, with all its dark and terrible record, credulity has perhaps the credit balance on its side in the consolation afforded the pious souls of all ages and of all climes, who have let down anchors of faith into the vast sea of superstition.

—OSLER

BOOK REVIEWS

CHILD AND JUVENILE DELINQUENCY. Edited by Benjamin Karpman, M.D. (Washington, D. C. : Psychodynamics Monograph Series, 1959, pp. 364. \$10.00.)

This book presents now in collected form the papers, comments and discussions that comprised 5 symposia held at Orthopsychiatric meetings in the early 1950's. The contributors were several outstanding workers drawn mainly from the psychiatric discipline.

The first 3 symposia deal with the somewhat vexed and uncomfortable concept of the child psychopath in terms of definition, etiology, psychopathological phenomena, frequency of occurrence and treatability. On only one of these points, the relatively gloomy prognosis, do nearly all speakers agree. For the rest, the opinions are as diverse as the approaches presented, which vary from the convinced endocrine-organic to the equally convinced psychoanalytic. It is, however, refreshing to find expressed by all, the present lack of any proven definitive statements or conclusions and a knowledge of the inadequacies of any and every approach to this thorny problem.

The latter 2 symposia deal with the more frequent delinquent problems, the first with the older and the second with the younger "predatory" delinquent. As in the first three, the contributors speak from a wealth of experience and add, by a variety of views, a roundedness to the consideration of "psychodynamics" and "basic emotional factors."

Although at times, the differences appear to be less of fact than of approach, there is little attempt to find any common ground and one is left with a series of well-stated convictions. No new ideas of any material consequence are presented—indeed, in its whole 368 pages, no tables appear except some profiles by Spitz. One can well empathize with Wechsler's lone cry in the wilderness for more rigid methods of research and verification. In addition, though there is common agreement on the importance of social factors, no voice is heard from the discipline of sociology.

It is impossible to discuss this book without referring to a grating tendency that increases throughout it, namely to summarize everything and then summarize the summary ad infinitum. This reaches its height of annoyance when the "summary" takes a complete sentence from the paper and repeats it—on the facing page (p. 124-125). Unfortunately, this detracts from the

real merit of the attempts to synthesize the divergent views that lie within these repetitious sections. The application of editorial rigor would have improved the overall value and impression even were it at the expense of the retention of spontaneity that publication "in full" may try to encompass.

Despite its drawbacks, the book represents a solid and conscientious attempt to present the many facets of work in the field at that time—a distillate of experience and opinion from those whose work entitles them to speak as representatives of a variety of divergent views.

QUENTIN RAE GRANT, M.B., CH.B.,
Children's Psychiatric Service,
Johns Hopkins Hospital,
Baltimore, Md.

EINFÜHRUNG IN DIE PSYCHIATRIE. By Kurt Kolle. (Stuttgart : Georg Thieme Verlag, 1960, pp. 92. DM. 6.80. \$1.60.)

Professor Kolle, who is director of the Psychiatric and Neurological Clinic of the University of Munich, has prepared three texts adapted primarily for use of medical students. This one may be regarded as a primer or guidebook to lighten the task of students coming newly into the psychiatric clinic.

Later on when the student has become somewhat acquainted with the subject and has seen many cases, he will need the more comprehensive and detailed text, the *Lehrbuch der Psychiatrie*.

Finally, to refresh his memory and make a closer study of cases he has seen in the clinical demonstrations he may turn to the third volume containing presentation of individual cases. In this last book Professor Kolle emulated the useful pattern of his predecessor, Kraepelin, in the latter's *Einführung in die Psychiatrische Klinik*.

In the present small *Wegweiser* Kolle begins with a brief notice of the main names in psychiatric history of the 19th and 20th centuries.

Next comes the subject of classification, the foundations of which were laid by Kraepelin, affording a system of medical diagnoses—*Ohne Diagnose Keine Therapie*.

The table of diagnoses in the narrower sense will however be confusing for the beginner. Therefore the author brings all psychic abnormalities together in 6 large groups: 1. Abnormal or psychopathic personalities. 2. Endogenic psychoses. 3. Exogenic psychoses. 4.

Acquired psychic disorders. 5. Diseases of the nervous system. 6. Disorders of the sympathetic nervous system. Brief commentaries accompany the several divisions.

It is necessary to acquaint the student with the dilemma of trying to align pathologic psychic states with somatic conditions. Innumerable futile attempts have been made to cut this Gordian Knot, which ultimately takes the shape of the body-mind question itself. To approach it by way of philosophy may satisfy the mind of the philosopher. Kolle mentions a late luminary in this field: Heidigger, whose existential philosophy has been seized upon by certain psychiatrists to resolve the dilemma. This area of speculation Kolle calls a "Nomansland," whence the spoils that adventurers bring home are only "*dürftig und einfürmig*."

Discussing diagnosis (3 pp.) Kolle contrasts the relative precision of diagnosis based on organic physical and neurologic findings with the extreme vagueness of diagnosis based on other factors.

Under treatment (24 pp.) is reviewed for the student all currently available procedures, including psychotherapy, with a somewhat ambivalent critique of psychoanalysis, together with methods that require institutional care. Opportunities for research are particularly stressed; likewise the standpoint that psychiatry and neurology constitute a united field as part of the whole discipline of medicine.

C. B. F.

RECENT ADVANCES IN BIOLOGICAL PSYCHIATRY.

Edited by Joseph Wortis, M.D. (New York & London: Grune & Stratton, 1960. \$13.50.)

To most British psychiatrists, too much American psychiatric literature now seems to consist of the repetitive dialectics of well-in-doctrinated Freudians, and therefore this book comes as a particularly welcome and appropriate reminder of the existence of a less vocal but very active minority striving for progress along lines much more likely to produce the new and really practical treatments of the mentally ill.

The book contains a veritable mass of facts and new observations along a variety of biological approaches to our psychiatric problems, and records what must have been a very special meeting of the Society of Biological Psychiatry in 1959. The Havelock Ellis Centenary, for instance, prompted an interesting symposium on sexual behaviour and impulse in man and animals, including a discussion of the importance of early imprinting as a cause of later

sexual deviation. There is also a most instructive round table discussion on the toxic theories of schizophrenia. The hallucinogenic drugs come in for special examination, including attempts to try to understand better the actual biochemistry of LSD psychosis. Kalinowsky appraises the tremendous practical treatment advances brought about by the somatic therapies, including the new tranquillizing and antidepressant drugs. Even the neurology of motivation is chosen for the Presidential Address, and a whole section of the book is devoted to a study of conditioning seen electroencephalographically in man and animals; other studies in neurology and physiology are given a whole 70 pages.

If only there were a few more volumes like this, we should certainly start to get very much nearer to helping a lot more of the patients now crowding the mental hospitals of both our countries.

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THE CARICATURE OF LOVE. By Hervey Cleckley, M.D. (New York: The Ronald Press Company, 1957.)

In the preface to this little volume the author states:

"This book has two chief themes: sexual disorder and its influences, and a critical examination of some concepts of sexuality which are prominent today in psychiatry and psychology. Many psychiatrists, psychologists, and sociologists have, in recent years, taken the position that society should exhibit a more liberal attitude toward sexual deviation. It has been repeatedly maintained that the public and the law are unduly influenced by prejudice and archaic tradition, that aberrant sexual practices are too harshly condemned by our culture."

Dr. Cleckley obviously does not accept this point of view but regards personality disturbances of this type as distinctly abnormal and adds as a subtitle of his book: "A Discussion of Social, Psychiatric, and Literary Manifestations of Pathologic Sexuality." The chief, but not only form of sexual deviation which the author discusses, is homosexuality. He points out that many persons who have contributed much to literature and the arts and who in many respects have contributed to human values have satisfied sexual impulses in this manner. He does, however, in spite of the contributions which such persons have made, believe that persons who indulge in them must be regarded as having personalities which are

pathological and may exercise a disturbing influence on young associates. He quotes from the *Journal of the Americal Medical Association* as follows, in its reply to a question received a few years ago asking if homosexuality is thought to be congenital or acquired: "As such a child (homosexual) grows up he retreats from heterosexuality to homosexuality because of previous fearful associations with heterosexuality." We wonder if this is correct.

The experience of the author has been much like that of most of the rest of us: namely, that these sexual deviates are rarely treated successfully. We also agree with him that science should "avoid using such terms as 'prove' and 'demonstrate' for what is no more than hypothesis, personal taste or speculation."

As one lays down this book he feels somewhat puzzled as to its purpose. Is its purpose to present a really intelligent discussion of sexual deviations or is it to make sport of Freudian theories? Although many theories proposed by Freud seem to be baseless speculations, yet if they were considered as figures of speech instead of substantiated theories would they not receive more general acceptance?

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AND THE POOR GET CHILDREN. By Lee Rainwater, Ph.D. (Chicago: Quadrangle Books, 1960, pp. 190. \$3.95.)

Clinics affiliated with the Planned Parenthood Federation of America have been involved for many years with evaluation and prescription of contraceptive methods. Harmlessness, effectiveness and acceptability were the criteria used to evaluate such methods. Sufficient time has been given to prove the efficacy and reliability of the methods tested and prescribed. The concern now is that of acceptability. Various psychological investigations are in progress, or projected, to determine: Why those most in need of contraception do not seek it; why those who do seek it (and, in so doing, presumably demonstrate a desire to use the prescribed method) but then do not use it; and why some discontinue the method after a period of time.

In an attempt to answer these questions, the Planned Parenthood Federation of America sponsored a pilot investigation of the psychological factors involved in family planning and contraceptive practices among working class men and women. As stated, 2 broad subjects were covered. 1. Specific attitudes, motives and habits in connection with contraceptive practices. 2. The psychological context of motives, morals and attitudes in other aspects of family

living which condition working class behavior in the area of contraception. The sample consisted of 96 working class respondents, 46 men and 50 women, in the reproductive years, living in an urban area, constituting an ethnic and religious cross section, and all married and living with their spouses.

The findings show a concrete correlation between the factors explored and the use and non-use of specific contraceptive methods. Excerpts from some of the interviews are particularly revealing.

From these findings, the challenge is raised to all workers in this field. "It is clear that working class people have a real interest in family planning and limitation. The professional worker who is able to approach them in terms of their realities, their understanding, their anxieties, and goals will stand the best chances of helping them to use effectively their own self interest in contraception."

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AN EXPERIMENT IN MENTAL PATIENT REHABILITATION. By Henry J. Meyer and Edgar F. Borgatta. (New York: Russell Sage Foundation, 1959, pp. 114. \$2.50.)

This monograph is a carefully planned evaluative survey of an ambitious pilot project planned by the Executive Director of Altro Health and Rehabilitation Services Inc., Bertram J. Black. The project represented an extension of the services of this agency to include patients discharged from state mental hospitals. The research team narrowed down its selection of the group to be studied to those with the diagnosis of schizophrenia.

The express aim of the project was to determine whether the rehabilitation program offered by the agency, which is carried out and supervised in the environmental setting of a modern garment factory, could be adapted to the re-conditioning of discharged mental patients with the same success as with the after-care of discharged tuberculous and cardiac patients.

Despite the fact that there was a widely expressed conviction that there would be no difficulty in assembling a sufficient number of clients anxious to take advantage of the program, the fact proved to be quite the opposite, with the result that the numbers actually engaged in the rehabilitation were negligible. Consequently, the primary purpose of the project was not realized. From the ashes of defeat, however, rose a phoenix of resourceful

inquiry into the significance of what had been learned about the problems, attitudes, beliefs, and expectations of the clients who had been selected to form their "focal group" (those who would be put through the rehabilitation program) and the control group. Many pointers were found in these areas to suggest that there is a vast amount of work to be done in the field of studying the after-care needs of the discharged mental patient. Above all, it soon became evident that the availability of a potentially sound rehabilitation program does not by any means prove that there will be a waiting list of clients.

Although, therefore, this pilot project failed to produce statistical results of any significance with respect to the possible benefits of the Altro Rehabilitation program in re-conditioning the ex-hospitalized mental patient to meet the ardors of competitive living, a great many observations were made which will be of use to others who plan research in this complex area of human illness.

The application of work therapy for mental hospital patients is not a new or untried auxiliary therapy, either during hospitalization or later. This principle—the principle of re-conditioning disabled persons to the use of injured limbs or of impaired mental faculties through the acquisition of technical skills and the development of increasing work tolerance—has been in application in such widely different settings as the New York State Rehabilitation Hospital and the Rehabilitation Center of the American Rehabilitation Committee for many years. There is, I believe, ample proof of the usefulness of such rehabilitation programs in a wide range of human illnesses. It is well-known to workers in this field that the emotional factors involved in re-conditioning a sick person are of paramount importance, no matter what may be the diagnostic category in which the illness falls. In mental illness this factor is, of course, of absolute and primary importance.

Where this project calls for special commendation, however, is, first, that it represents an attempt at serious evaluation of whether, how, why, and when a certain program can be proven to be adapted to the after-care of ex-hospitalized mental patients; and, second, that the agency called on experts in the field of social science to co-operate with, advise on, and evaluate the implementation of the project. It is one thing for an agency to try to outline sound methods of procedure and to work steadily at implementing its program and at evaluating its own results. It is quite another to take full responsibility for planning

and carrying out a pilot research and to subject those who do the work to a continuing and final critical evaluation. Only by such genuine scientific enthusiasm and objectivity can advances be made in such a complex field as the rehabilitation of the ex-hospitalized mental patient. The staff of the agency, the evaluating team, and the Russell Sage Foundation are to be congratulated on a modest but valuable contribution to our understanding of some of the principal leads to be followed in future investigations.

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THE TWO CULTURES AND THE SCIENTIFIC REVOLUTION. By C. P. Snow. (New York: Cambridge University Press, 1959, pp. 58.)

In this time of fast-moving social and political changes we are also enjoying (or enduring) a scientific revolution. Sir Charles Snow feels we are as unconscious of it, as poorly prepared for it and have it as weakly integrated socially as our forbears in the case of the industrial revolution. This latest movement is coming inevitably into our lives with changes causing more change resulting in farther revolution, and so on. At least that was the kind of sequence when there were new sources of power, new machines and when a new organization of production began in the 18th and 19th centuries. The earlier revolution was the cause of severe shocks to social systems and national structures, but it was, as Snow puts it, "the hope of the poor," because they at least had a chance of self-improvement though they first had to experience the sweat shops. This scientific revolution consisting of major advances in the electronic fields, atomic energy and automation will not be so important for destroying feudal systems and bringing down aristocracies as it will be hope for the poor nations of the world. The social and political upheavals provide the motives for major alteration in the social systems of Africa and Asia. The scientific revolution will provide the means for these changes which will *not* be evolutionary, gradual and spread over several generations. Instead, the people of Africa and elsewhere will soon learn they need not wait for their offspring to enjoy those things the major civilized nations now have. They will want them now or in the near future and their desires will be in the realm of possibility because of the scientific revolution. We have not the excuses of the past for delay and patience because technological advances will make progress a possibility much sooner than we had

expected. We can only hope to have influence upon the direction and shape progress will take in the previously underprivileged areas.

Sir Charles Snow in his Rede Lecture at Cambridge has such an immensely impressive message on matters of overwhelming importance in such reasonably cool language that this reviewer struggles to keep out the sound of trumpets in reporting on it. Snow is a remarkable and versatile man with careers in science, literature and government all of which qualify him for the particular angle used in this book.

A major aspect of our maladaptation to the scientific revolution and of our increasingly apparent inability to use it wisely for stimulating democratic advantage in the underdeveloped countries has been the traditional and growing schism between the humanities and sciences, between the literary men, writers and teachers on one side and the scientific researchers, teachers and technologists on the other. Snow feels these two groups, somewhat artificially dichotomized for his purposes, are as separate as two cultures and he is as an anthropologist reporting on them. From his quelled and reserved atmosphere the literary man has pity and contempt for the quick but shallow ways of the scientist. But the brash and brainy physicist, archetype of his group, with his chaotic blackboard has no time for the writer quaint and old-fashioned as he is, nor for his books either.

As Snow sees it there is both truth and blind prejudice in the opinions of each about the other. The writer is as illiterate about the periodic table as the scientist regarding modern poetry. The best of our writers have been determinedly last in perceiving and accepting social advance. Mistrust of the literary ones deserves sympathy because of the fusty and fiercely backward ideas propounded by Yeats, Pound, Eliot, Faulkner and Robert Penn Warren to mention a few. Then the scientist is too often lacking depth in his feeling and thought about the human condition and the needs and goals of men who are not scientists. The scientist's attitude with many exceptions is too likely to be impatient with things of non-scientific value and to assume that (except for music) art is a kind of plaything, unreal and quite secondary.

The mutually repellent nature of the relationship between these cultures has a disintegrating effect upon education and leads to specialization in trivia. This pulling apart also makes for a lack of ability to coordinate an

adaptation to the inexorable scientific revolution. These effects are described by Snow as major sources of the very dangerous delay in our work as humanists and scientists in the underdeveloped countries.

I think this book may be of particular interest to psychiatrists because they have in some ways struggled more than others with the division and coordination of humanistic and scientific disciplines.

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THE SCIENCE AND MEDICINE OF EXERCISE AND SPORTS. Edited by Warren R. Johnson.
(New York: Harper and Brothers, 1960,
pp. 740. \$12.00.)

This is an excellent book for all those interested in the medical and scientific aspects of exercise and sports. Its 42 contributors include many whose primary interest lies in physical education, and in the physiology and psychology of exercise. All present their matter in a readable and well-referenced manner; an extensive bibliography following each chapter. The section on physiological aspects is factual and informative, dealing with each of the body systems, and presenting opinions backed with experimental studies of the effect of exercise on them, and the variations noted under particular circumstances; for example, stress, training, weight-control, climate, altitude and sport diving. The problem of motor development, growth, and exercise in adult years, with special reference to middle and advanced years, are well discussed. The psychological aspects are reviewed, with discussion of the personality dynamics, and the contribution of exercise and sport and of athletic participation to mental health and academic performance. The therapeutic aspects with relation to medicine, rehabilitation of the ill, and as a psychiatric adjunct are well presented.

Apart from the factual presentation of experimental and theoretical data and background, one cannot escape the feeling that the authors believe that exercise and sports are pleasant, worthwhile and beneficial activities, despite the fact that in no place are they guilty of biased presentation or of extravagant claims.

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JACKSON, FREUD AND SHERRINGTON ON THE
RELATION OF BRAIN AND MINDRONALD W. ANGEL, M.D.¹

The first object of this paper is to show that John Hughlings Jackson, Sigmund Freud and Sir Charles Sherrington held remarkably similar views concerning the relation of cerebral and mental processes. The second object is to suggest that their views provide a sound rationale for current research on the neural basis of mind.

It is noteworthy that these men, who were leaders in neurology, psychiatry and neurophysiology, respectively, arrived at similar conclusions in regard to the brain-mind relation. Their reasoning is still cogent, and it deserves special interest in the present era of psychophysiology, psychopharmacology, psychosurgery and psychosomatic medicine.

Despite the recent upsurge of these hybrid specialties, the literature contains few explicit discussions of the brain-mind problem. In writings on neurophysiology, the word "mind" is usually enclosed within apologetic quotation marks, and in writings on psychoanalysis, the word "brain" seldom occurs at all. If these disciplines can progress without reference to the brain-mind problem, then why does it deserve serious attention?

One answer is that persons who study the brain or the mind are likely to make various assumptions concerning the relation between the two. Even if these assumptions are purely implicit, they tend to influence thinking and research. It would seem advantageous to make them explicit, if only in order to become aware of their defects and limitations. Jackson, Freud and Sherrington took pains to express their assumptions in clear, written statements. These writings form the basis of this paper.

HUGHLINGS JACKSON AND THE
DOCTRINE OF CONCOMITANCE

Hughlings Jackson drew a clear distinction between mental states, on the one hand, and nervous states on the other. In the class of mental states, he included perceptions,

thoughts, affects, wishes and so on. In the class of nervous states, he would include "the varying conditions of anatomical arrangements of nerve cells and fibers . . . the physics of the nervous system" (1). He objected strongly to the prevalent confusion of psychology with the physiology of the nervous system exemplified in such statements as that "ideas are formed in the cortical grey matter of the brain, and produce movements by acting on lower centers" (1). He warned against

the fallacy that what are physical states in the lower centres fine away in psychical states in higher centres; that, for example, vibrations of sensory nerves become sensations, or that somehow or another an idea produces a movement (2).

Despite his warning, this fallacy appears repeatedly in present-day writings on psychiatry. For example, in one standard text we are told that severe anxiety may overflow into the muscular system where it produces tremor and restlessness (11). Jackson would have no patience with statements of that kind.

Not only did he distinguish clearly between nervous and mental states, but he denied any transition from one to the other (1):

We cannot understand how any conceivable arrangement of any sort of matter can give us mental states of any kind . . . I do not concern myself with mental states at all, except indirectly in seeking their anatomical substrata. I do not trouble myself about the mode of connection between mind and matter. It is enough to assume a parallelism. That along with excitations or discharges of nervous arrangements in the cerebrum, mental states occur, I, of course, admit; but how this is I do not inquire; indeed, so far as clinical medicine is concerned, I do not care.

When Jackson stated that he was not concerned with the connection between mind

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and matter, he may have seemed indifferent to the mind-body problem. On the contrary, he faced it directly and expressed his viewpoint unequivocally. He recognized two classes of events, the mental and the physical, which are mutually exclusive. Mental states are connected in some way with their anatomical substrata, but he did not presume to understand the mode of connection. As shown in the following quotation, he denied that the relation is causal(3) :

Now, I speak of the relation of consciousness to mental states. The doctrine I hold is : first, that states of consciousness (or, synonymously, states of mind) are utterly different from nervous states; second, that the two things occur together—that for every mental state there is a correlative nervous state; third, that, although the two things may occur in parallelism, there is no interference of one with the other. This may be called the doctrine of Concomitance.

Jackson's doctrine of concomitance had a strong influence upon those who followed him, including Sigmund Freud.

THE VIEWS OF SIGMUND FREUD

Following Jackson, Freud drew a clear distinction between mental states and states of the brain. His viewpoint is expressed in the following quotation(4) :

The tendency of earlier periods in medicine was to localize whole mental faculties, as they are defined by psychological nomenclature, in certain regions of the brain. By contrast, therefore, it was bound to seem a great advance when Wernicke declared that only the simplest psychical elements, the different sensory presentations, could legitimately be localized—localized at the central termination of the peripheral nerve which has received the impression. But shall we not be making the same mistake in principle, whether what we are trying to localize is a complicated concept, a whole mental activity, or a psychical element? Is it justifiable to take a nerve fiber, which for the whole length of its course has been a purely physiological structure and has been subject to purely physiological modifications, and to plunge its end into the sphere of the mind and to fit this end out with a presentation or a mnemonic image? If "will," "intelligence," and so on, are recognized as being psychological technical terms to which very complicated states of

affairs correspond in the physiological world, can we feel any more sure that a "simple sensory presentation" is anything other than a technical term of the same kind?

It is probable that the chain of physiological events in the nervous system does not stand in a causal connection with the psychical events. The physiological events do not cease as soon as the psychical ones begin; on the contrary, the physiological chain continues. What happens is simply that, after a certain point of time, each (or some) of its links has a psychological phenomenon corresponding to it. Accordingly, the psychical is a process parallel to the physiological—"a dependent concomitant."

It is well known that Freud's earlier views on the relation between the mind and the nervous system were greatly influenced by Jackson, from whom he borrowed the phrase "dependent concomitant." Like Jackson, Freud warned emphatically against confusions between physical and psychical processes, and he would not tolerate thoughtless jumps between the physiological and psychological points of view. He objected, for example, to the statement that a mental "presentation" might be localized within a nerve cell(4) :

This way of putting matters . . . at once leads to a confusion between the two things, which need have no resemblance to each other. In psychology a simple presentation is something elementary for us, which we can sharply distinguish from its connections with other presentations. This leads us to suppose that the physiological correlate of the presentation—i.e., the modification that originates from the excited nerve fiber with its termination at the centre—is something simple too, which can be localized at a particular point. To draw a parallel of this kind is of course entirely unjustifiable; the characteristics of the modification must be established on their own account and independently of their psychological counterpart.

The views of Freud and Hughlings Jackson are seen to agree, except upon one point. Jackson spoke of "states of consciousness" as synonymous with "states of mind." Freud would disagree with him about this, but otherwise there is full agreement. Jackson sought physical explanations for disordered states of the nervous system; Freud sought psychological explanations for dis-

ordered states of mind, but neither would permit loose thinking upon the relation of brain to mind.

Just as Hughlings Jackson protested against the use of psychological terms in explaining neurological disorders, so Freud and his followers objected to the use of physiological terms in psychology. Breuer, for example, wrote as follows(5) :

In what follows little mention will be made of the brain and none whatever of molecules. Psychological processes will be dealt with in the language of psychology ; and, indeed, it cannot possibly be otherwise. If instead of "idea" we chose to speak of "excitation of the cortex," the latter term would only have any meaning for us in so far as we recognized an old friend under that cloak and tacitly reinstated the "idea." For while ideas are constant objects of our experience and are familiar to us in all their shades of meaning, "cortical excitations" are on the contrary rather in the nature of a postulate, objects which we hope to be able to identify in the future. The substitution of one term for another would seem to be no more than a pointless disguise. Accordingly, I may be forgiven if I make almost exclusive use of psychological terms.

This is a clear statement of the lesson taught by Jackson and Freud : thoughtless transitions between the psychological and physiological points of view can serve no useful purpose. If contemporary writers would remember this lesson, one would no longer read about the overflow of anxiety into the muscular system or the effect of morbid ideas upon gastric secretions.

THE VIEWS OF SIR CHARLES SHERRINGTON

Like Jackson and Freud, Sherrington emphasized the distinction between mental and physical processes, as shown in the following statement(6) :

The physico-chemical (or for short physical) produced a unified machine from what without it would be merely a collocation of commensal organs. The psychical, creates from psychical data a percipient, thinking and endeavouring mental individual. Though our exposition kept these two systems and their integrations apart, they are largely complementary and life brings them co-operatively together at innumerable points. Not that the physical is ever anything

but physical, or the psychical anything but psychical.

Sherrington goes on to point out the difficulty that must be overcome in the attempt to integrate brain and mind.

[This integration] has to overcome a difficulty of no ordinary kind. It has to combine two incommensurables ; it has to unite two disparate entities. To take an example : I see the sun ; the eyes trained in a certain direction entrap a tiny packet of solar radiation covering certain wave-lengths emitted from the sun rather less than 10 minutes earlier. This radiation is condensed to a circular patch on the retina and generates a photo-chemical reaction, which in turn excites nerve-threads which relay their excitation to certain parts of the brain, eventually to areas in the brain-cortex. But . . . there follows on, or attends, the stage of brain-cortex reaction an event or set of events quite inexplicable to us, which both as to themselves and as to the causal tie between them and what preceded them science does not help us ; a set of events seemingly incommensurable with any of the events leading up to it. The self "sees" the sun ; . . . in the sequence of events a step is reached where a physical situation in the brain leads to a psychical, which however contains no hint of the brain or of any other bodily part . . . The supposition has to be, it would seem, two continuous series of events, one physico-chemical, the other psychical, and at times interaction between them.

This is the body-mind relation ; its difficulty lies in its "how" . . .

Sherrington thus agreed with Jackson and Freud that mental and physical events are distinct and incommensurable. He disagreed with them when he stated that there may be interaction between the two series of events, although he found it difficult to conceive how such interaction occurs. All three writers would surely agree that there is at present no known means of interaction.

OTHER POINTS OF VIEW

The doctrine of concomitance is not, of course, the only possible viewpoint concerning the body-mind relation. By way of contrast, some of the other proposals will be mentioned, although it is not within the scope of this paper to discuss them adequately.

The simplest, though not the most respectable, way to handle the relation between body and mind is to deny the existence of one or the other. Certain faith-healers, for example, profess to believe that the material world is an illusion. Since, in their view, the material body does not exist, there can be no problem of a body-mind relationship. Surely no one in the medical profession would accept this doctrine, and it need not be discussed further.

A second proposed solution is to deny the existence of mind. This approach is taken by the behavioristic psychologists, who either deny the occurrence of mental states or reject them as irrelevant. According to the followers of John B. Watson, the objective facts of human and animal behavior comprise the only proper subject for psychological study. For them, as for the faith-healers, there can be no problem concerning the relation of body and mind, since there are not two variables to be related.

Although Watsonian behaviorism has passed its heyday, a behavioristic bias is still evident in animal psychology. Since the lower animals have no speech, one cannot record their inner experiences nor even verify that such experiences occur. The animal psychologist records only the overt behavior of his subjects, together with any related electrical, mechanical or chemical changes. Yet he cannot ignore the animals' inner life entirely. In some experiments the cat may act as if it were "hurt" or enjoying a pleasant experience (7). In recording such observations the animal psychologist may put quotation marks around the words "hurt" and "experience," but he has to depart from the purely behavioristic viewpoint. Thus it appears that a thoroughgoing behaviorism is no longer appropriate, even in animal psychology.

A third proposed solution to the body-mind question is to dismiss it as a pseudo-problem based upon linguistic confusion. According to Professor Ryle (8) and other philosophers of the Oxford school, the distinction between mind and body is purely a matter of language. The word "mental" does not apply to a special kind of "stuff" but only to certain organizations or patterns of elements which it is not significant to call "mental." Bertrand Russell (9) has written

a cogent refutation of these philosophers, who try to dismiss important scientific problems as verbal trivialities.

A fourth proposed solution is the two-aspect theory, whose proponents would deny the "medically useless" distinction between mind and body (10). According to this theory the mind is "merely one aspect—the psychological aspect—of biological functioning of the organism" (11). Behavior that involves the organism as a whole is called mental. Behavior that involves only a part of the organism is called physical. Since there is no real dichotomy, there can be no problem of a body-mind relationship.

This theory invites criticism for two reasons. In the first place, the definitions of mind are unsatisfactory. We are told that mind is merely the psychological aspect of biological functioning. "Psychological," of course, means "of or pertaining to psychology," and psychology is the study of the mind. The definition is, therefore, circular. With equal cogency one might define "digestion" as "the gastroenterological aspect of biological functioning."

The other definition of mind, as a collective term for activities that involve the organism as a whole, is no more satisfactory. According to this definition, any behavior that involves the coordinated activity of the whole individual, including the special senses, brain, musculo-skeletal system and viscera must be called mental. Any activity that involves just one part of the organism, for example the brain, must be called physical. This leads to the curious conclusion that playing tennis is a mental process whereas daydreaming is a physical activity.

The second defect of the two-aspect theory is illustrated by the following analogy: If one were asked to explain how the therapeutic actions of a certain drug are related to its chemical structure, he might reply that there is no real dichotomy between chemical structure and therapeutic actions, that the two are merely different aspects of a chemotherapeutic unity. This kind of reply is unacceptable since it attempts to answer a question of fact by means of verbal evasion.

The relation between cerebral and mental processes is a question of fact. It is a fact that human beings have brains, which are

exceedingly complex, both in structure and in function. It is also a fact that people have sensations, thoughts, emotions, wishes and dreams. In ways that we are only beginning to understand, these mental processes are correlated with the structure and function of the brain. Workers in psychophysiology and psychopharmacology are now trying to map out the details of this correlation. They can expect no help from the two-aspect theory, which attempts to brush aside the very problem that they are studying.

Proponents of the two-aspect theory might accuse Jackson, Freud and Sherrington of setting up the mind as a metaphysical entity. The charge is, of course, untrue. These men were not metaphysicians but practical scientists who insisted upon clear thinking. Indeed, the clarity of their views invites mathematical formulation. Using techniques developed by Russell, Woodger (12), Carnap (13) and others, it is now possible to apply mathematical reasoning in any field where relations play an essential role, *e.g.*, the various geometries, physical theories and, most recently, certain branches of biology. Jackson's doctrine of concomitance provides a starting-point for an exact logical formulation of the body-mind relation.

When contrasted with rival theories, Jackson's doctrine is not only clearer but also more useful as a basis for experimental research on the neural basis of mind. It postulates that for every mental state there is a correlative nervous state. If we modify this to read that every *kind* of mental process is correlated with a specific *kind* of cerebral process, then we have a rationale for psychophysiology. What kind of cerebral activity is correlated with the experience of pain or pleasure? What are the neural substrata of perceptions, thoughts, wishes and dreams? To answer these questions, or even to ask them, we must have some rationale such as that provided by the doctrine of concomitance.

SUMMARY AND CONCLUSIONS

Hughlings Jackson, Sigmund Freud and Sir Charles Sherrington held similar views concerning the relation of brain and mind. Jackson and Freud believed that physical and mental processes comprise two distinct series of events, which are closely related but do not interact. Both men objected to the prevalent confusion of psychology with the physiology of the nervous system. Sherrington agreed that physical and mental processes are "incommensurable," but he believed that interaction is possible.

When contrasted with rival theories, the doctrines of these men appear to be more acceptable, both logically and as a rationale for experiments on the neural basis of mind.

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PSYCHOSIS, DRIVE AND INHIBITION : A THEORETICAL AND EXPERIMENTAL ACCOUNT ¹

H. J. EYSENCK ²

INTRODUCTION

For the past 10 years or so the writer and his colleagues have been attempting to discover objective psychological tests in the cognitive, perceptual and motor fields which would differentiate psychotic patients from normal subjects and neurotic patients of similar age, sex and intelligence (10, 11, 15, 20). It was discovered that quite large numbers of tests did in fact differentiate the psychotic groups from the others, and it was further found that the one feature which all these tests seemed to have in common was a generalised pattern of slowness which seemed to cover the areas of perception, cognition and motor reaction (35). These results fit in rather well with those obtained by many other investigators (1, 2), and recent reviews have adequately covered this field so that it will be unnecessary to do so again here (17).

Another outcome of the series of researches mentioned above has been to clarify the *dimensional description* of mental abnormality. Analyses of objective test scores made by schizophrenic, manic depressive, hysterical, psychopathic, anxious, obsessional and depressed patients, as well as normals, have shown clearly that these diagnostic categories did not in any sense refer to *categorical disease groups* but are rather located at various points of a 3-dimensional framework, the three axes of which are psychoticism, neuroticism, and extraversion/introversion. These analyses have been carried out by making use both of factor analysis and of multiple discriminant function analysis, and the results of these quite divergent techniques have been astonishingly similar (10, 11, 13, 14, 18, 24, 36).

As regards the descriptive or nosological side of the investigation, therefore, the results seem to be clear-cut and relatively straightforward. Psychotic disorders are essentially unlike neurotic disorders; both

manic depressive and schizophrenic patients react very similarly on large batteries of objective tests; and it is possible to generalise a large number of different experimental findings by stating that psychotic subjects, in every aspect of their behaviour, tend to be abnormally *slow*. This statement of course does not exclude the possibility that psychotic subjects are also characterised in other ways which may not themselves depend on generalised slowness; it has however been our experience that many of the symptoms of thought and behaviour disorders of psychotic patients can ultimately be reduced to derivatives of general slowness. It is also not intended to convey the impression that there are no differences between schizophrenics and manic depressives; recent studies from this laboratory have indeed provided significant evidence of differentiation between these two groups (17, 36). Nevertheless, as far as mental slowness is concerned, both the two major groups of functional psychotics appear to be characterised by very similar reactions, and it will be the purpose of this paper to suggest a theory to account for these findings.

The sequence of events leading from psychiatric nosology through psychometric and empirical objectification to hypothetico-deductive theoretical and experimental analysis duplicates that which has characterised the set of studies carried out in the field of neurosis (9, 15, 18), and it is interesting to note that in the neurotic field this type of progress finally led to the elaboration of a rational system of classification, diagnosis and therapy (19). It is the writer's belief that advance in abnormal psychology and psychiatry is most likely to come by the pursuit of some such series of steps, and it may not be entirely fanciful to imagine that problems in the aetiology and treatment of psychosis may in the long run also find an answer along these lines.

THEORETICAL ANALYSIS

The concept of *explanation* in psychiatry

¹ The writer is indebted to the Society for the Investigation of Human Ecology for a grant in support of the studies here reported.

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and psychology has always presented some difficulties. It is customary to explain the less well-known by the better known, but in the field of the social sciences there has been so little agreement on what is known and what is merely hypothetical that it proved impossible to follow the usual course of scientific explanation. The writer (15), has argued that the recent advances in modern learning theory (26, 39) have furnished us with a set of concepts and laws which, while far from perfect, are nevertheless sufficiently precise and well validated to make it possible to account for behavioural observations in terms of these concepts and laws, and to make experimentally testable deductions from such theories. Hitherto the writer has concentrated on neurotic disorders in his attempts to apply modern learning theory to psychiatry (15); the present paper is a first attempt to make such an application to the field of psychosis.

Without entering into all the complexities which a detailed analysis along Hullian lines would necessitate, we may perhaps state quite broadly that most modern learning theorists would agree with some such statement as this :

$$P = (f) D \times H;$$

i.e., performance is a multiplicative function of *drive* and *habit*. *Drive* in this formulation means the motivational state of the organism which makes it perform the task in question, while *habit* relates to the particular connexions in the central nervous system which have been made through previous learning and which facilitate the performance in question. One immediate hypothesis which arises from this formula would be one which would account for the worse (slower) performance of the psychotic in terms of lower drive; indeed, this is of course the type of explanation which is normally given in text books of psychiatry and clinical psychology.

An alternative hypothesis suggests itself when we consider an additional concept, namely that of *reactive inhibition* (usually abbreviated and symbolised as I_R). This is conceived to be a kind of neural fatigue, of central origin, which develops after any kind of perceptual, cognitive or motor performance and dissipates in time. During massed practice this inhibition accumulates,

as there are no rest periods during which it can disappear. Now I_R , which subjectively is experienced as boredom, fatigue or even pain, is regarded as a negative drive, *i.e.*, a tendency to make the organism stop doing whatever it is doing. As such it is subtracted from $D(30)$, so that the "drive" in our original equation is really equal to $(D - I_R)$; this combination of positive and negative drive may be symbolised as D (effective drive).

We now have an alternative hypothesis to account for the poor performance of psychotics. We may assume that reactive inhibition either accumulates faster or dissipates more slowly in psychotic patients or both; this would leave them in a state of lower D , even though they were equal or even superior to normal and neurotic subjects with respect to D . As inhibition grows fairly quickly even in normal subjects, the main interest of this hypothesis would centre on the hypothesised *slower rate of dissipation*, and in order to account for the very marked differences in behaviour between psychotics and other groups it would be necessary for this slowing down in the rate of dissipation to be quite severe. We thus end our consideration of theoretical possibilities with two alternative hypotheses, both or either of which would, if true, explain a good deal of psychotic behaviour :

1. Psychotics have lower D (motivation) than normal or neurotic subjects.
2. Psychotics have a slower rate of dissipation of I_R (reactive inhibition), and are consequently nearly always working under a lower D (effective drive).

It will be the task of the next section to deduce from general learning theory certain consequences, experimentally testable, which should follow if these hypotheses were true, and demonstrate that in fact these deductions are borne out.

DEDUCTIONS FROM THE THEORY

In order to test the two hypotheses outlined above it is clearly necessary to be able to measure drive and reactive inhibition. Measurement of I_R fortunately presents little difficulty in principle. During massed practice I_R accumulates, because there are no rest pauses during which it can dissipate.

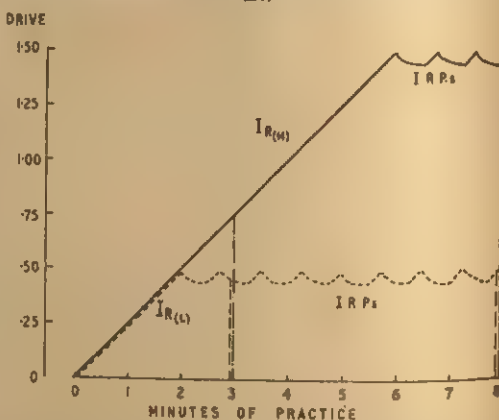
If now we introduce a rest pause into the proceedings sufficiently long for all or nearly all of I_R to dissipate, then we would expect an improvement in performance after the rest pause. This prediction is based on the simple consideration that before the rest pause $D < D$, because $D = D - I_R$. After the rest pause, however, $D = D$, because I_R has disappeared completely. Now H is not affected by the rest pause, and consequently the product of $D \times H$, i.e., the performance of the subject, will be greater after the rest pause than before. This well-known phenomenon is called *reminiscence*, a name given to it for historical reasons which would not recommend themselves to modern investigators, but which have embedded the term so firmly in our theoretical framework that it would be impossible to dislodge it now(34). We may say then that reminiscence can be used experimentally as a measure of I_R , provided certain simple conditions are fulfilled.

It has also been proved possible to use reminiscence as a measure of motivation or D . The early theoretical and experimental work of Kimble(31) and Wasserman(43) is relevant here. Kimble argued that reactive inhibition during massed practice would increase until it reached the same level as D . At that point $I_R = D$ and consequently $D = D - I_R = 0$. According to our formula performance should stop at this point as the equation would read: $P = 0 \times H$, which is itself zero. Accordingly at this point there would occur involuntary rest periods (I.R.P.s) during which the organism ceased functioning and during which inhibition would dissipate. When sufficient inhibition had dissipated for D to be a large enough positive quantity, performance would begin again, I_R would accumulate once again, thus enforcing another rest pause. From the moment that the critical point had been reached where $D = I_R$, the organism would therefore continue working in a series of fits and starts. There is good experimental evidence for the reality of such involuntary rest pauses in the analysis of behaviour(3, 4, 25, 33, 37, 42) and also in the electro-physiological analysis of EEG and other autonomic measures which demonstrate a momentary sleep-like state of the organism during these I.R.P.s

(44, 5).

If the critical level at which these involuntary rest pauses begin occurs at the point where $D = I_R$, then an organism working under low drive would clearly reach the critical level earlier than an organism working under high drive, and equally the amount of I_R tolerated by the organism working under high drive would be greater than the amount of I_R tolerated by an organism working under low drive. This is illustrated in Figure 1, with the letters H and L referring respectively to groups of subjects having high and low motivation.

FIGURE 1
Diagram Representing Theoretical Growth of Reactive Inhibition (I_R) in High Drive and Low Drive Groups, Leading to the Occurrence of Involuntary Rest Pauses (I.R.P.s) (21)



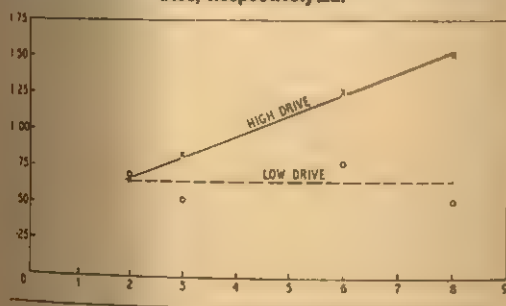
It will be seen from Figure 1 that after 6 minutes or so of practice both the high and the low drive group have reached their respective critical levels where $D = I_R$. Now we have already established that reminiscence is a good measure of I_R ; in other words $\text{reminiscence} = (f) I_R$. We have also seen that at the point where involuntary rest pauses begin, and from thence onward, $I_R = D$. We can take these two equations together and make them read: $\text{reminiscence} = (f) D$; in other words the amount of reminiscence observed under the experimental conditions described is a function of the drive under which the organism is working.

That this hypothesis is correct can be seen from Figure 2 which is a summary of two studies carried out by Eysenck and

Maxwell(21) and Eysenck and Willett(22) working with fairly large groups of industrial apprentices under conditions of high or low motivation respectively; these workers used as their experimental task the pursuit rotor. Rest pauses of 6 minutes were introduced at different points of practice for different groups of apprentices; as will be seen in Figure 2, the rest pause was introduced either after 2, 3, 6, or 8 minutes of practice. As predicted, the reminiscence scores of the low drive group remained at the same level throughout; those of the high drive group however grew as a straight-line function of length of practice. We may conclude therefore that reminiscence is indeed a good measure of drive under certain specified conditions.

FIGURE 2

Reminiscence Scores of High Drive and Low Drive Groups Giving Programmed Rest Pauses of Six Minutes after Massed Practice Lasting Two, Three, Six, and Eight Minutes, Respectively(22)



EXPERIMENTAL PROOF OF THE THEORY

We are now in a position to test our theory directly in relation to the performance of psychotic groups. First let us consider the kind of prediction which follows from both our two hypotheses. According to the first hypothesis, psychotics are characterised by *low drive*, and in view of the extreme nature of their performance defects we would have to postulate a very low drive state indeed to account for the defects. If this were true then it would follow directly from the considerations advanced in the last section that psychotics would have very little or no reminiscence *regardless of the length of the rest pause*, while normal and neurotic subjects under similar conditions would have reasonably high reminiscence scores. This result, it should be emphasised, would be expected to hold true regardless

of the actual level of performance of our psychotic groups. It is one of the advantages of the method of measurement of motivation suggested here that differences in ability or previous training on the task do not affect the measurement to any considerable degree as reminiscence is measured in terms of relative change from pre-rest to post-rest performance, and not in absolute terms.

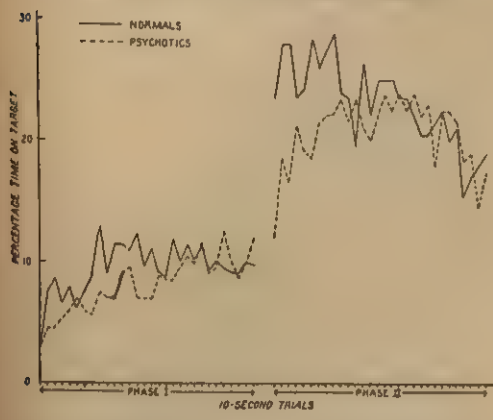
A similar prediction can be made from our second hypothesis. The phenomenon of reminiscence as produced by the dissipation of I_R ; if, as the hypothesis states, I_R does not dissipate to any extent during the rest period in psychotics, then reminiscence would be low or nonexistent. We see therefore that both hypotheses predict unequivocally the absence of reminiscence in psychotic groups under conditions where reminiscence is clearly observed in normal and neurotic groups.

Two studies have been carried out in our laboratory giving strong support to this deduction from our theory. Broadhurst and Broadhurst(6), using both schizophrenic and manic depressive subjects of a chronic kind, demonstrated the complete failure of these subjects to show reminiscence effects on the pursuit rotor. At the same time, and quite independently, Claridge(7), also using the pursuit rotor, found a similar failure of reminiscence to appear in pursuit rotor performance on the part of young and undeteriorated schizophrenics (cf, Figure 3). Other investigations from the Institute of Psychiatry(40, 41) have also been interpreted in a similar manner although the results were not quite as clear-cut; this may have been due to the use of tasks less well suited than the pursuit rotor to the measurement of reminiscence. We may conclude therefore that the deductions from the general theory outlined in a previous section have good empirical support. It is interesting to note at this point that early investigations by Hoch(27) and Kraepelin(32), using the ergograph and the *Rechenheft*, suggested theoretical solutions not essentially different from those here attempted. These early studies were not adequately controlled, of course, and the type of activity studied did not produce results particularly well suited for this kind of analy-

sis, but nevertheless the early emergence of experimental tests related to theories of drive and inhibition (fatigue) should not be passed over without comment.

FIGURE 3

Experimental Data Showing Lack of Reminiscence in Psychotic Subjects as Compared With Normals(7)



A CRUCIAL EXPERIMENT TO DECIDE BETWEEN THE TWO HYPOTHESES

The results so far reported would follow regardless of which of our two theories happened to be correct. We must now consider the possibility of designing an experiment to discriminate between the two theories. It has been pointed out in the last section that if the first hypothesis were true, *i.e.*, that accounting for psychotic performance in terms of low drive, then reminiscence scores should be low for psychotic subjects regardless of the length of the rest period. This, however, would not apply to our second hypothesis, which postulates that inhibition in schizophrenics would dissipate very much more slowly than in normals and neurotics. If the second hypothesis were true, therefore, we would expect that after a rest period of, say, 24 hours psychotics also would show strong reminiscence effects. Here then we would appear to have a crucial test to decide between our two hypotheses. It might of course be possible that both hypotheses were correct; in that case we would find a certain degree of reminiscence in psychotics after a 24 hour rest period, but this would still be below the reminiscence scores of comparable groups of normals and neurotics. The difference between the reminiscence scores of these groups would then

give us a measure of the difference in D . It would also be possible of course to record the rate of dissipation of I_R in psychotics by varying the length of the rest interval (30 minutes, 1 hour, 6 hours, 12 hours, 24 hours, *etc.*); this should enable us to plot in detail the decline of I_R and demonstrate in a quantitative fashion the differences between psychotics and other groups. It should also be possible to use reminiscence measures of this type as an index of recovery, assuming that recovery from psychotic illness was indeed accompanied by a lessening in slowness and an increase in D , or an increase in the speed of dissipation of I_R .

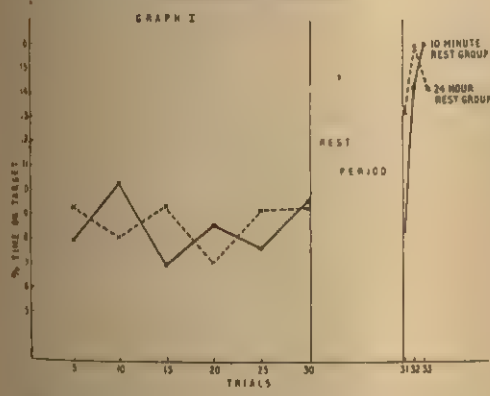
Some preliminary data are available with respect to the crucial experiment here proposed. Ley, in an unpublished study, tested 10 psychotic males with a rest interval of 10 minutes on the pursuit rotor, and another 10 with a rest interval of 24 hours. He also tested two groups of 10 normal subjects with 10 minute and 24 hour rest pauses respectively. He found at a good level of statistical significance that while after the 10 minute rest pause the normals had high positive reminiscence scores, those of the psychotics were for practical purposes equal to zero. After 24 hours he found that the reminiscence scores of the normals were somewhat lower than after the 10 minute rest pause; those of the psychotics however were now *higher* than those of either of the two normal groups. It would appear, therefore, that the hypothesis relating psychotic behaviour to low drive is untenable and that we must conclude that psychotic reactions are characterised by an excessive slowness of dissipation of inhibition.

This conclusion is supported by a recent study by Rachman (38), in which he had 10 chronic schizophrenics perform on the pursuit rotor with a rest pause of 10 minutes, while another group of schizophrenics performed with a rest pause of 24 hours. As pointed out above, normal subjects under these conditions show less reminiscence after the longer rest interval; as will be seen from Figure 4, the schizophrenics produced the opposite effect, with the 24 hour period significantly superior to the 10 minute one with respect to the size of the mean reminiscence score. Rachman's subjects

were all *male* patients of long standing; he benefited from Ley's finding that the poor performance of women generally, allied to the poor performance of schizophrenics generally, makes it almost impossible to test theories of this kind in schizophrenic women, as their performance does not easily leave the chance level; in order to work with women, the task has to be simplified, either by slowing down the rate of rotation of the target disc, or by enlarging the target disc. This has not to our knowledge been done hitherto.

FIGURE 4

Diagram Showing Lack of Reminiscence After Ten Minute Rest Pause(38)



It is possible to look upon the reports of Huston and Shakow(28, 29), supplemented by those of S. B. G. Eysenck(23), as providing some further support for the theoretical view under consideration. Huston and Shakow found with psychotic patients that reminiscence effects appeared after several months, using the pursuit rotor, while Eysenck failed to find such effects in normals after periods of 12 months. The analyses carried out by these workers are not sufficiently similar to place too much weight on the findings, but as far as they go they do seem to support the notion of slow rate of dissipation of Ir in psychosis, rather than that of lack of drive.

The negative conclusion of these studies regarding the lack of drive in psychotics is in good agreement with the results of another experiment(13) in which the persistence of psychotics on mental tasks was compared with the persistence of neurotics and normals, the assumption being that persist-

ence is to some extent a measure of drive. It was found that psychotics were significantly more persistent, as well as much slower. Elsewhere Eysenck(16) has shown that slowness in problem solving is a function of Ir. While this experiment on persistence is less conclusive than the series of experiments reported here, it nevertheless points in the same direction and may be used to strengthen the point made.

We may conclude therefore from this series of studies that an important aspect of psychotic behaviour is related to, and possibly caused by, the slow rate of dissipation of reactive inhibition in psychotics. It must remain the task of further experimental studies to verify these results, to indicate to what extent they apply to other types of test, to show to what extent the rate of dissipation of inhibition can be used to account for the observable defects of the psychotic, to what extent this rate is amenable to change by different types of treatment, and to what extent it mirrors the clinical state of the patient. This is a formidable list of research projects, to which should be added one additional project which takes us right out of the field of psychological investigation. There appears to be some evidence suggesting a link between inhibition and the activity of the ascending reticular formation(8), and a study of this link, with the slow rate of dissipation of inhibition of psychotics particularly in mind, would seem a very worth-while task.

SUMMARY AND CONCLUSIONS

An attempt has been made in this paper to account in theoretical terms for the generalised slowness which has been shown in previous work to characterise psychotic patients. Making use of the theoretical framework of modern learning theory, two hypotheses were put forward, relating psychotic slowness respectively to: 1. Lack of drive (motivation); 2. An exceedingly slow rate of dissipation of reactive inhibition. It was deduced from the theorems of learning theory that psychotics should be characterised by very low reminiscence scores on tasks involving massed practice if either of the two hypotheses were correct, and experimental evidence does indeed show that psychotics are differentiated from normals

and neurotics in precisely this way. It was then argued that a crucial test between the two hypotheses could be performed by varying the length of the rest period used for establishing reminiscence scores, and it was found that while with *short* rest periods psychotics showed *no* reminiscence, they did show very *strong* reminiscence effects after *long* rest periods. This is interpreted as irreconcilable with the hypothesis of low drive in psychotics, and may be used as support for the hypothesis that *psychotics are characterised by a slow rate of dissipation of inhibition*.

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"PRIVATE" VERSUS "PUBLIC" LOGIC : SOME ANTHROPOLOGICAL AND PHILOSOPHICAL REFLECTIONS ON THE PROBLEM OF MENTAL "HEALTH"

ERNEST BECKER, Ph.D.¹

The recognition of cultural factors as an inseparable part in the psychodynamics and content of behavioral dysfunction had a quiet anthropological start. But as sociological and anthropological facts become the property of psychiatrists a new swell of theory seems to be threatening not only psychiatric nosology, but the very concept of "mental illness" (1).

In their search for clarification of a new and knotty problem, psychiatrists are showing themselves excellent historians, anthropologists, and even political theoreticians. The status of science as a humanity stands to profit considerably thereby. In a recent article, Carothers postulates that one of the important factors in shaping patterns of mental breakdown is the existence or lack of literacy in a given society (2). The attitude that a society has toward reality depends upon whether its repertory of symbols is oriented to the visual or to the auditory senses. Where a written tradition does not exist, the word tends to be magically concretized; thought undergoes embodiment, spills from the private into the public domain in the form of malevolent sorcery. One has only to think evil for evil to exist. It is thus that thought becomes socially dangerous, and must be curbed in the communal interest. With the advent of social literacy, on the other hand, the orientation to reality shifts to the visual; thought loses its embodiment and magical powers, and thinking and logic are allowed to pursue a socially useful autonomy in each individual. This, all too briefly, is Carothers' thoughtful thesis.

Anthropologists have long been grinding (albeit, unfortunately, out of public view) their own axe on the problem of primitive versus non-primitive mentality. In an attempt to show that there is no graded hierarchy from primitive "pre-logic" to civilized "logic," Radin, over 30 years ago, insisted

that the only difference lay in the written word and the technique of thought elaborated thereby (3). Even though nothing, therefore, is "new," significant facts are worth repeating, and Carothers' reexamination of the problem of literacy from a psychiatric standpoint serves again to provoke needed speculation and study.

But there is some discrepancy between Carothers' data and Radin's. For example, Carothers indicated that thought in primitive societies is received by the ear, rather than the eye, one reason perhaps for its ready concretization. And he concluded, as briefly indicated above, that since the word can have a magic power and easy embodiment, thought becomes socially dangerous and is curbed by the community. Carothers allows for non-African discrepancies in this picture of social coercion derived from magical beliefs about the power of sound. Radin's conclusions highlight just such discrepancy. From his American Indian experience, he postulated that a remarkable freedom of thought can exist on the "primitive" level (4). Compare the following with Carothers' African observations :

I would be the last to deny that primitive man attaches importance and power to mere thinking or to magical formulae. The fact is patent. All I wish to emphasize is that he does not believe that thought does more than validate the reality of his subjective life. It does not touch the two great realities which apart from his personality concern him most : . . . the reality of the phenomenal world and the social world (5). [Again :] Very frequently, indeed, one finds primitive man claiming to have been able to achieve certain results through the insistence and perseverance of his thoughts. I myself was once informed by an Indian that he had always been so successful on the hunt because he *used* his thought. Now concretization of thought is common enough among primitive people just as is the concretization of the emotions. Never, however, did thoughts *lose their primary character of proofs of reality* (6).

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This discrepancy between African and American Indian data seems glaring; but it is superfluous to note that where matters of emphases are involved, which seek to support a conceptual orientation, interpretation of the facts shapes them somewhat to one's own use. Radin does not deny that the primitive man says, "I think, therefore, what I think exists" (7). But he insists that in the primitive's view, this subjectivity must not be interfered with: "If by expressing it he destroys himself, that is his own affair" (8). Thus, says Radin, "... it makes no difference whether a man thinks so or so. The social reality is not altered by it" (9). This freedom of thought is "... due to the clear preception of a lack of contact between thoughts, ideas, and opinions on the one hand and the social realities on the other" (10). The American primitive, in other words, seems to adhere to the adage, "He whom the Gods would destroy, they first make mad." The madness here lies in the subjectivity of thought, the ability of the individual to destroy himself by it; and it is held that self-destruction is discrete from the social reality.

It is our contention that since the primary function of thought is reality-testing for survival, this function finds its most direct exercise on those levels of existence where life is precarious. It is this that Radin's Winnebago recognizes: introverted thought that does not test itself against social reality is a private and perhaps even a self-destructive matter. But that is the individual's own concern, since, if he desires to survive, he had best come back into a social existence. After all, as we shall examine below, not all human groups have been as insistent as we are today upon preserving every single individual in the group.

The purpose of this paper is to draw a distinction between preliterate, social reality-testing for survival, and literate, logical testing of private propositions which have little if any relationship to survival in an immediate sense. But before proceeding to this, it would be helpful to review one model of the basic function of thought in reality-testing.

SCIENTIFIC INFERENCE AS THE BASIC COPING SKILL

The main task of the emerging individual

is the discovery of himself and the world. Reality-oriented from the first (Fairbairn's view), the infant tries to surmise boundaries and depths, especially of self and objects. By taking the attitudes of others toward himself, by "identifying" with the object, the child gives his own body an outside, and at the same time apprises the necessary inside of the flat, external object which is ministering to his needs. The world comes to be seen in the round.

But reality-testing does not continue smoothly. The environment causes frustrations, which give rise to conflicting impulses and inhibitions, and a new task is posed. The infant must find out what the novel features are in the new frustrating situation, in order to organize a response. This response, once organized, follows the conservatism of all organisms: it tends to be pertinent not only for the particular individual, but also for others. Thus, two new ideational components come into being: analysis of the unfamiliar, and representation of it in a generalizable direction. This play of ideas for coping with reality—analysis and representation—is internalized as a trial and error method within the individual, and thought and reflection become new tools for facilitating conduct.

These are George Herbert Mead's ideas, and he extended them in his understanding of the scientific method itself, and so put the method back into proper, exoteric perspective. Frustration arises when we meet a problem in thought, action or feeling, or an inhibition or exception to accustomed conduct. Our reaction to the new situation is characterized by a certain opposition of feelings—the same inhibition that the infant feels in the face of his frustration at something new and constricting. A problem, whatever its nature, can only come into existence when forward momentum in a particular situation has been stopped. Now, the statement or appraisal of just what it is in the situation that calls out the inhibiting reactions is what we call gathering the data or facts by analyzing the situation. The hypothesis is merely a mental reconstruction of the situation, taking into account its presumed unusual aspects, and designed to eliminate what was previously inhibiting (11). The hypothesis serves to

unplug the situation, with the facts duly taken note of, so that forward action can continue. The problem is solved when the forward momentum resumes. In other words—and this is important—the unplugging of the situation depends initially on the problem being resolved *in the mind* of the hypothesizer. External reality gives its assent or dissent to our appraisal of the facts only later on, when we experiment by acting on the hypothesis.

In daily problem-solving as well as exalted scientific method, the process is the same, that of simple inference. The perfection of scientific method as a reality-probing device lies simply in the care and exactness with which the problem is defined, facts gathered, and hypothesis formulated. The experimental verification which caps the process is carefully controlled (12).

PERSONAL VERSUS SOCIAL ROLE-TAKING

Thus, the primary character of thought, for the developing individual as well as for Radin's Winnebago, is its function as a proof of reality. The scientific method is a method of natural inference which grows out of a more primitive "attitude taking." To get a proper appraisal of a social situation in order to act, the individual tries to get as many perspectives as he can on the situation, so that his behavior will be based on sound inference. It is to the great merit of the sociologists to have insisted that the simple operation of role-taking is integral to social living: role-taking simply means taking the attitude of others toward oneself and toward the objective situation, so that behavior will be based on a many-sided pattern of inferred facts. Role-taking is an anticipation of the situation for valid action. It is because everyone has roles and can imagine the roles of others, that social behavior is at all possible with a minimum of confusion. Role-taking, in sum, is a fundamental source of data obtained by the trial-and-error method practiced within the individual by thought. It is a natural means of providing information by inference. Ultimately, then, we can see that the individual is *forced to become social in order to function*: his behavior cannot take place independently of thoughtful

identification with the behavior of others, i.e., role-taking.

ROLE-TAKING SKILL AND MENTAL HEALTH

Norman Cameron has beautifully demonstrated that some forms of behavioral dysfunction, especially paranoia, arise through the individual's inability to take roles (13). Thus, instead of constantly validating his action and thought by sound social inference, he comes to create a purely private delusion; at no points in this delusion do the real attitudes and roles of others break through. The individual has effectively isolated himself, and has determined his own eventual destruction, by his inability to see himself and the social situation from a many-faceted view.

Role-taking skill can, in fact, be considered a pivotal criterion for mental health. In his ability to take roles, the individual allows himself a flexibility, an adaptability and re-adaptability that makes for a constantly buoyant orientation to a changing social field. An individual who cannot take roles, risks submerging himself in unverifiable private thoughts and delusions, as his suspicions and susceptibilities are reinforced into a false dogma, which is unquestioningly adhered to. In his inability to throw fresh social light upon his private preoccupations, by taking the role of others, the paranoid becomes a dogmatist. His theory (delusion) was initially a mental release from an intolerably uncertain situation, but he becomes hedged in by the dogma itself.² Now paranoia is a very graphic illustration of how social isolation is effected by the inability to use thought

² Cf. Boverman's suggestions on the therapy of paranoiacs (14). He points out that the therapist should be honest with the patient, make it known that he considers him ill, and not humor him. In other words, the therapist should very early attempt to undermine the false theory, by injecting into it some incompatible facts. It would seem that confronting the patient with the therapist's reality serves to attack the paranoiac inference before it can luxuriate. Before, in other words, it can accomplish what it sets out to do, which is to create an unplugging of the situation. The therapist then becomes a contact in reality, for which the patient must forfeit in part his false inference. His inhibition would thus increase, creating motivation for a therapeutic cure.

properly in reality-testing. The main function of natural scientific inference is thereby defeated. We are tempted, therefore, to support the view that here, indeed, is an objective criterion for pathological behavior. The question is prompted :

Can the idea of mental health be considered a phenomenon purely relative to cultural norms, when role-taking skill defines the individual's flexibility and adaptability, and therefore his sound social functioning ?

It would seem that objective criteria for social man do exist. But we have not yet examined the crucial dichotomy of preliterate social versus postliterate private thinking.

SOCIAL PHILOSOPHY AND THE IDEA OF "EMERGENCE"

George Herbert Mead formulated a brilliant philosophy of social man which culminated in a challenging hypothesis : that mind is an evolution in nature, and that sociality gives form to emergent mind. Mind, in other words, is first formed in the infant's taking the role of others to orient his own action by natural inference. So that, evolved on its highest level, consciousness is wholly socially reflexive : the individual apprehends as wide a variety of generalized standpoints as possible. By taking the role of the other in thought, the mind can be projected to any part of the universe ; the man from Mars enters our thinking to examine us critically. Meaning in life is fashioned from the perspectives which thought can encompass. Beginning as painful inference to overcome physiological helplessness, the infant's mind becomes, ultimately, an impersonal, socially reflexive entity, projecting disembodied scientific concepts. Through impersonal rational mind, man becomes wholly social.

But he does not become *personally* social. Here is the rub. Implicit in our discussion of role-taking is the idea that it may serve two kinds of thought processes : 1. That process whereby the individual assumes the attitudes of others, inferentially, in a social situation ; 2. That process whereby the individual makes various inferences in systematized abstract thinking. In order for science and logic to luxuriate, literacy and symbolic manipulations had to succeed

a constricting illiteracy, so that the dexterity of mind in inferring complementary propositions could be given free rein.³ The consequences of this for the individual may now be considered ominous. Role-taking in science and logic, the rapid leafing-through mentally of complementary and opposing attitudes, releases the mind from inhibition. But in his juggling of abstract symbols, the individual formulates problems and hypotheses that have no relationship to present, external reality. The impasse which one reaches in a private, logical problem is an introverted one, it does not need social proving out. When literacy enabled the rise of science, man could proceed to unbridled use of role-taking in inferential logical analysis independent of his own organismic experience. Mind, in other words, loses its primary social function, as it becomes peopled with systems of visual abstract symbols. Logic becomes internally uninhibiting, and the social proving out of the most esoteric products of mind is totally unnecessary. Einsteinian generations of thinkers could live a part of each day taking the role of light beams around the sun, and thus be truly lost to the social community a good part of the time.

Emergent mind seems to operate with a vengeance against the animal's boundness to the here and now. When the "superego" is implanted in the child, his mind is claimed for society. Paradoxically, the further development of rational thought serves to separate the individual more and more from his early symbolic identifications, whether as the growth of the scientific thinker or the religious convert. The self-custodial function of the superego runs its full course : as rational scientific mind becomes thoroughly social, the *individual* is given the possibility of becoming asocial. The written word and the development of logic serve to free man from a personal dependence upon the immediate social world.

PUBLIC VERSUS PRIVATE LOGIC

Despite the abstract level of our discussion thus far, its import to a practical psy-

³ This does not imply any absence of abstract inferential skill on a preliterate level—only that in the absence of literacy symbolic dexterity is seriously hampered.

chiatry is quite clear. As private logic enables the luxuriation of a symbolic world that is idiosyncratic, the individual is allowed to create a psychological behavioral world as fantastic as that of the legendary "primitive." In other words, though we should like to imagine that the growth of literacy has permitted an unprecedented realism, we may be as far from it, individually, as ever—and perhaps even a good deal further. If the separation of public and private logic represents a growing historical dichotomy, the subjective and objective worlds are no nearer to determination by realistic standards.

Margaret Mead once observed, that in our culture cause and effect thinking is *culturally-learned*. Quite naturally, we link present happenings to past causes, even if thereby we really learn or explain nothing: The psychiatrist is best witness to the patient who painstakingly links present malfunction to minute sexual trauma of the past, when in reality these have nothing to do with his basic problem. Furthermore, although we culturally value the idea of realism, the testing and proving-out of propositions, it might be found that we are quite off the mark in most of our thinking. At the present point in history, it would probably take a visitor from an uncorrupted planet to discover the illogic in our minute checking out of the mechanical details in a new car, which we may have never needed yearly-renewed in the first place.

Hallowell has well presented the main function of culture for the human animal (15). Culture provides the self-reflexive human with a psychological behavioral world designed to furnish him with the one premise without which he cannot live: the conviction that he is an object of primary value in a world of objects. Culture, in brief, provides the symbolic myth of meaning to an otherwise impossible world. Since man is the only animal who can reflect, who can objectify himself, he is thus also the only one who must infuse his self-objectification with a sense of primary value. This basic function of culture is well-known and unassailable. It follows, of course, that if each individual must assign himself a sphere of primary value in a psychological behavioral world, each society

tends to arrogate unto itself the pretension to a symbolic meaning system that is unimpeachable—if it is at all approachable by others. Ethnocentrism is not a historically conditioned habit of thought, or a laxness in logic, it is a condition of self-referential existence. It is, therefore, only natural that our 20th century society should pride itself on the attainment of the highest realism possible, and thus consider itself to culminate a long tradition of historical striving.

THE FREEDOM TO DIE AND THE COMPULSION TO CONFORM

But there are at least two very trenchant reasons for doubting that widespread realism is characteristic of our culture. In the first place, as indicated above, the private world of the literate thinker may never be socially proven-out. The logical manipulations of the scientific theorist may provide both himself and a good percentage of his fellows with a full time activity that may only be proven *totally unreal* several generations later. Not only does the individual's private logic permit him a socially-accepted positive self-valuation on the basis of his "scientific genius," but his real alienation from the world of reality can, like paranoia, proceed without check. In the second place—and this is really the crux of the matter—this alienation *has nothing to do with survival in an immediate sense*.

Radin's Winnebago could afford to be tolerant of the individual's deviation by private thoughts. Besides, where community survival hinges on some sound everyday logic in hunting and fishing, and everyone usually pitches in in the task, social testing of individual preoccupations is never long delayed. Shared activities upon which life and death depend are more immediate, they demand a more strict adherence to logical rules that can be perceived by all. The individual who demonstrates subjective deviation or nonsense in the dangerously exacting job of off-shore communal fishing will often be quickly dispatched into unconsciousness by an alert group.

In civilized living, on the other hand, survival just "happens" in the midst of confusingly plural activities. For most, the essentials of life are "born packaged," and the sight of animal slaughter sickens. With

social survival assured in a society of plenty, and with the products of private logic susceptible of remaining untested during an entire lifetime, the individual can no longer destroy himself, like Radin's Winnebago.

Thus, our society is unique in that, not only is the individual immune to self-destruction by following his private logic, but even were he to follow it to the point of extreme catatonia, *we do not let him die*. Our society places a positive value on neonates, aged and maladjusted that in itself might be considered culturally and historically somewhat peculiar. (One has only to compare the treatment of the old and infirm among the Eskimo and certain African tribes; the neonate cannibalism among the Australian aborigines; and the alacrity with which the natives brought their mentally ill to the first Madagascar mental hospital opened by the French—they no longer had to kill them.)

The primitive, in other words, tolerates the aberrant private logic because he also tolerates the self-destruction which it entails. By the very same cause and effect, we do not tolerate the self-destruction, and therefore *do not tolerate the private world view*. Carstairs observed that to the extent that private logic is considered dangerous to a society, it will be controlled. In those instances in which magical thoughts are a menace to the whole community, the individual's own death may be unimportant, but the damage he can do with his mind is. Thus, in this sense, we are just as restrictive of individual freedom as is the primitive, and perhaps more so. We have not improved on the formula, but only coined a peculiar cultural version of it: having saved the individual from death, we have also to take the next logical step, which is to bring his thinking into line with that of the rest of society.⁴

⁴ Recent class studies of mental health show sharp discrepancies that seem to support the primitive-modern dichotomy outlined above. In social class 5, where survival is always more or less at stake, "mental health" is almost uniquely an empirical, objectively determinable phenomenon: is performance of the breadwinner adequate to assure family survival, despite the most personal of idiosyncracies? In class 1, on the other hand, where survival is largely assured, a close interpersonal and personal check is kept on social function-

The ineluctable historical innovation of literacy, private logic and an economy of plenty seem to exacerbate the problem of mental health. To what extent can we clarify, by attempting to view objectively the peculiar rationalizations of our culture as it copes with these innovations? This is a research problem of no small import. For example, a lobotomy not only prevents individual "death," it also prevents cultural death. The primitive, by allowing his deviant to die, forestalled thereby any living reproof to the sacrosanct symbolico-cultural system of sustained meaning upon which society depended. The cultural myth of action and meaning *had to be* unshakable, since deviation from it demonstrably meant death. But the living mental deviant in our society permits no such ready reinforcement. Allowed to live, his private distorted meanings assume an unnatural discordancy; they threaten to illuminate the transparency of the culturally-fabricated meaning from which humans draw sustenance. We can rejoice when the disease-ridden patient triumphs over natural biological limitations. But it is quite otherwise with culture: man cannot allow triumph over or indifference to his own fabrications of meaning.

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6. *Ibid.*, p. 61, emphasis added.
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ing: standards for performance are almost subjectively created as private logic provides a scrutinized potential for "queerness" (16).

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HUNGER AND SATIETY ¹

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Recent physiological discoveries have outmoded what is still the prevailing clinical theory of hunger. This paper describes these discoveries and considers their implications for our understanding of overeating. First, however, let us examine our current theory of hunger.

A "PERIPHERAL" THEORY OF HUNGER

The physiology underlying the hunger drive had been a subject of speculation for 100 years when the observations of Cannon (1) and Carlson(2) at the beginning of the century gave rise to the first empirically based theory of hunger. While studying the gastric motility of human subjects, Cannon in 1912 discovered that hunger pangs coincided with powerful contractions of the empty stomach. Hunger—both as a sensation and as a drive—was thereupon referred to these gastric "hunger" contractions and they were ascribed a primary role in the regulation of food intake. In this view, a state of nutritional depletion was the stimulus to the gastric contractions and the discomfort of these contractions motivated food-seeking behavior. This resulted in the ingestion of food which restored the depleted nutritional state and so removed the stimulus to the gastric contractions. Without these contractions there was no longer an impetus for food-seeking behavior.

This theory adequately described the known facts and it served for many years as the standard explanation of hunger. Such success was no doubt partly due to the high prestige of peripheral drive theories, of which this theory of hunger was a most respectable member. The essence of these theories was that they located the origin of drives in peripheral structures such as the stomach (hunger), the throat (thirst) and the genitals (mature sexual behavior).

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One of the finest analyses of peripheral drive theories, that of Freud's 1916 paper on "Instincts³ and their Vicissitudes"(3), is summarized schematically in Figure 1.

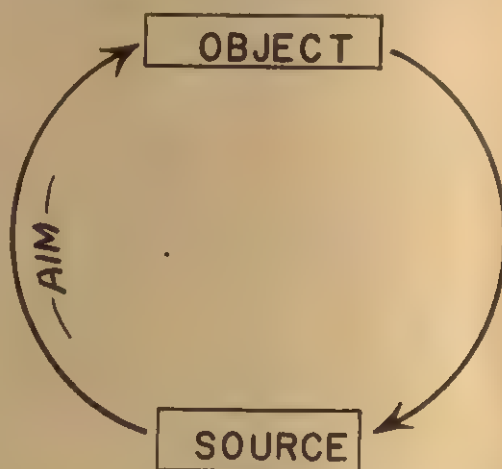


FIGURE 1

Schematic Summary of the Peripheral Theory of Hunger Described in the Text

He defined the "source" of the drive as "that somatic process in an organ or part of the body from which there results a stimulus (which is) represented in mental life by an instinct." The "source" gives rise to behavior called the "aim" which "seeks to abolish the condition of stimulation in the source of the instinct." This "aim" is achieved through the final term in the equation,—the "object"—, a person or thing which is defined as "that in or through which the drive can achieve its aim." This analysis reveals how similar the peripheral theory of hunger is to Freud's most enduring theory of drives. His model is just as appropriate for dealing with behavior believed to have its origin in the stomach as for that with sources attributed to the oral, anal and genital regions.

To summarize peripheral drive theories: a disequilibrium in the internal milieu activates a peripheral structure which in turn

³ In this translation the German *Trieb* (drive) has been rendered as instinct.

triggers off behavior designed to restore the internal milieu. Once this restoration is achieved the peripheral organ stops sending out stimuli and the drive runs out of steam. To anticipate the new developments in drive theory we should note that in the peripheral theories satiation is simply an incidental aspect of a drive. It is no more than what happens when a drive runs out of steam.

A "CENTRAL" THEORY OF HUNGER

Two lines of investigation sounded the death knell of the peripheral theories of hunger. One discovered events which could not be explained by a peripheral theory and the other uncovered evidence for a central theory.

Grossman showed that denervation of the human stomach did not abolish either the sensation of hunger or the ability to regulate food intake and that animals were perfectly capable of regulating food intake following gastric denervation (4, 5). Furthermore, the removal of the entire stomach in man does not abolish hunger sensations and such individuals can regulate food intake (6). In the face of such evidence it is hardly possible to accord to the stomach the vital role assigned it by peripheral theories.

The decline of the peripheral theory of hunger has been hastened by a series of remarkable physiological discoveries. The reticular activating system and the limbic system, structures with enormous potential for our understanding of behavior, have been extensively investigated. And of even greater significance for our understanding of hunger has been research on the hypothalamus. Here, in an area no larger than 2 cubic centimeters, have been discovered neural centers which control such diverse activities as feeding, drinking, respiration, sleep, emotionality and sexual and maternal behavior. These centers are sensitive to a wide variety of influences; indeed, every influence which has been implicated in the motivation of behavior affects hypothalamic centers—peripheral sensations, higher nervous activity, hormones and changes in the internal milieu. This striking localization of sensory and motor functions strongly suggests that the integrating mechanism for motivated behavior lies in the hypothal-

amus. Here, rather than in peripheral structures, the determinants of drives are registered and processed, and goal-directed behavior is instituted. This vital role of the hypothalamus makes its characteristics of profound importance for our understanding of behavior. One characteristic of its neural organization is particularly relevant to the hunger drive. The hypothalamic centers mediating hunger consists of not 1, but 2 pairs of nuclei,—one for initiating and one for inhibiting feeding behavior. Why this division of labor?

Stellar has summarized current views in his proposition that the "arousal of motivated behavior is determined directly by the output of the excitatory mechanism and the satiation of motivated behavior by the output of the inhibitory mechanism" (7). And judging by their relative sizes the inhibitory mechanism is fully as important as the excitatory. Now this is a remarkable notion! Our behavioral analyses have long viewed satiation as a purely incidental aspect of the drive—what happened when the drive ran out of steam. But if satiation were merely such an epiphenomenon, why should it need such a powerful neural apparatus? Clearly this anatomical fact forces us to reconsider the nature of satiety.

THE NATURE OF SATIETY

It is easier to find a rationale for known structures than to deduce such functions before the structures are known; and any effort to find a rationale for a dual control system for feeding behavior is just such a *post hoc* exercise. Nevertheless, the time relations of eating and satiety,—and particularly the lag between satiety and repletion of the internal milieu—strongly suggest that some such control is necessary. Eating stops considerably before the internal milieu is restored to the conditions which were present at the time the drive was activated. Indeed, if eating terminated only when the internal milieu had been restored to equilibrium, any food still in the gastro-intestinal tract, often a considerable amount, would produce an overshoot in caloric repletion. Accordingly, in defining satiation, it is necessary to add to traditional drive theory a time-delay function which shuts off eating at a time prior to the complete restora-

tion of caloric equilibrium.

Communications engineers have found that a time-delay function can be introduced into an automatic regulatory system by a single sensing device, provided that the system functions under rigidly controlled circumstances. To maintain stability under circumstances as variable as those of feeding behavior, however, 2 sensing devices are necessary, one for stopping as well as one for starting eating. The requirements of automatic control, thus, provide our sought-for rationale for the importance of satiety.

This increased importance of satiety is illustrated in Figure 2, where we see that

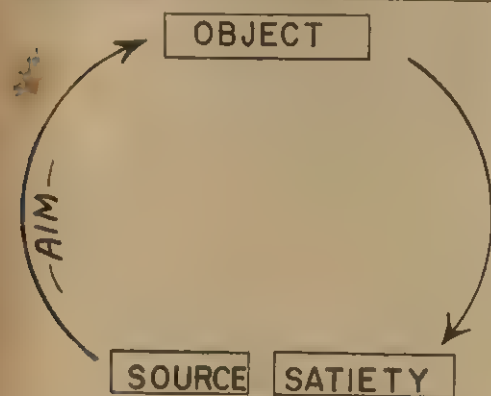


FIGURE 2

Schematic Summary of the Central Theory of Hunger Described in the Text

satiety has been removed from its implicit position in the source of the drive and has been added as another term to the equation. What is the effect of this reformulation upon our understanding of obesity? Its greatest effect is to free us from a major constraint of the older theory and to give us more freedom in explaining behavior. For example, we are no longer forced to explain all overeating as a manifestation of an increased hunger drive. Increased activity of the feeding centers may, indeed, produce overeating. But it could also result from a decreased activity of the satiety centers; and these 2 forms of overeating may differ dramatically. These possibilities will be illustrated with examples from animal and clinical studies.

ANIMAL STUDIES

Experimental work has shown that eating

behavior may vary greatly depending upon the conditions which initiate it. The traditional method utilizes food deprivation. After a period of food deprivation an experimental animal will not only eat a large amount of food but, when obstructions are put in the way of his obtaining this food, he will work to overcome the obstructions. This sequence is so consistent that the duration of food deprivation can serve as a measure of the strength of the drive. This relationship holds whether drive is measured in terms of how much food the animal eats, how heavy a cover to the food dish he will lift or how much electric shock he will take to reach the food.

This equating of duration of food deprivation and strength of drive had been so firmly established that we were quite unprepared for the paradox introduced by Miller, Bailey and Stevenson in their paper on "Decreased 'Hunger' but Increased Food Intake in Hypothalamic Obese Rats." These authors showed that destruction of the hypothalamic centers mediating satiety resulted in a peculiar form of overeating. As long as food was freely available, the animals overate. However, as soon as any obstruction was placed in the way of their eating,—as soon as they had to work for food,—they simply sat down on the job. Thus, by any of the traditional measures of drive strength the rats were not hungry; but, when provided free access to food, they overate. This phenomenon poses a formidable explanatory problem to traditional drive theory; it is a logical consequence of the view that overeating can result from a failure of satiety.

CLINICAL STUDIES

Normal eating behavior in man is subject to conditions remarkably similar to those existing in the lower animals. In both man and animal the strength of the hunger drive depends almost exclusively upon the duration of food deprivation. After eating, drive level is low and it increases with increasing deprivation. In the animal this increase is measured by determining how much it eats and by how hard it will work to get food. These measures can be used in man, and, in addition, man's vast repertoire of response permits us to measure the effects

of food deprivation upon many other forms of behavior. Several studies show that food deprivation produces consistent effects upon perception, fantasy and overt behavior. The per cent of food images in ambiguous pictures, for example, increases with food deprivation(9). Under such circumstances there is an increase in certain food-related fantasies evoked by Thematic Apperception Test cards(10). Finally, increasing food deprivation produces an increased tendency toward social affiliation(11).

Abnormal eating behavior in man does not exhibit these comfortable regularities and our conceptual tools have been limited by the constraints of traditional drive theory. We have today only one explanation as to how neurosis can produce overeating: drives which cannot otherwise achieve outlet take over the channels of discharge of the hunger drive. This drive-displacement theory of overeating has for years been the assumption of most clinical literature on obesity.

What of the alternative? Is there any virtue in looking at disturbed eating behavior from the point of view of satiety as well as of hunger? Do we find any examples which might be attributed to a failure of satiation as distinguished from an increase in hunger drive? The answer is yes! Many obese patients describe their overeating in terms far more appropriate to a failure of satiety than to an increase in drive. How rarely do even intensely neurotic obese persons tell of an irresistible compulsion to eat large amounts of food! And how frequently does the exasperated housewife tell of her inability to stop nibbling once she has begun! The distinction between increased hunger drive and impaired satiability becomes even more marked in the small number of obese persons who eat in abnormal stereotyped patterns.

This distinction recently led to a fruitful reappraisal of an obese man who had long been considered a "compulsive eater." The patient's overeating had begun abruptly following a bout of encephalitis at the age of 12, and it had been present ever since, not apparently affected by changes in his life situation. This seemed unusual if his overeating were indeed compulsive, and investigation raised further doubts about the

diagnosis. He said that he did not feel any compulsive quality to his overeating. Indeed, he never felt any strong urge to eat, and he was perfectly content to forego food for periods of as long as 18 hours during experimental studies which claimed his attention. His overeating afforded none of the relief of tension which might be expected to follow the performance of a compulsive ritual, nor did it arouse any apparent guilt. Instead, he attributed his overeating to a disinclination to stop eating as long as food was available. In short, this man, who had suffered extensive brain damage, ate very much like a rat with experimental damage to its hypothalamic satiety centers. It seemed entirely possible that this man overate for the same reasons.

A more common clinical picture characterized by an inability to stop eating is the "night-eating syndrome"(12). Persons with this distinctive eating pattern are anorexic during the morning and may eat little or nothing before noon. By supper, however, they have begun to eat heavily, and they continue all evening, often until late at night. When asked to describe their feelings during such periods these persons rarely speak of being hungry, and many of them even volunteer that they are not overeating because of hunger. They report, rather, that they frequently find themselves "nibbling" and just can't seem to stop. It is noteworthy that if they cannot begin eating they rarely develop any strong desires to eat or make any great effort to obtain food. Even when they are severely agitated, there is none of the goal-directed urgency of the addict deprived of his narcotic or the alcoholic at the outset of a binge.

There is no reason to believe that the night-eating syndrome results from any irreversible damage to the hypothalamic satiety centers. It seems, rather, a reaction pattern which occurs during periods of life stress and which disappears with relief of that stress. Its characteristics, however, suggest a functional impairment of the satiety apparatus.

Once we can describe overeating *not* based on an increased hunger drive, overeating which *is* based on an increased hunger drive becomes a meaningful idea. Viewed in this critical manner, one form

of overeating definitely seems to result from an increased hunger drive. A small number of obese persons overeat in a pattern which we have called "binge-eating" (13). Such eating often has an orgiastic quality and enormous amounts of food may be consumed in relatively short periods. In contrast to most obese persons, binge eaters *do* report an irresistible compulsion to overeat and their descriptions are concerned far more with the intensity of their need to eat than with any inability to stop eating. Eating binges often begin with explosive onset and are usually followed by periods of remorse and self-condemnation. Although binge-eaters emphasize the mysterious "out of the blue" quality of their binges, acquaintance with their life situations reveals that the binges occur during periods of life stress. They are particularly common during depressive reactions, and, in contrast to other forms of overeating, appear to have highly personalized unconscious meanings.

WHAT OF THE FUTURE ?

Where do these ideas lead? The way seems clear. If overeating can indeed result from either an increase in drive or a decrease in satiability, this difference should be experimentally demonstrable. We have described methods for measuring increased drive. How impaired satiation could be demonstrated in a clinical setting is less clear, but an effort to develop methods to test a potentially fruitful theory could be a welcome change from our current all-too-sterile empiricism. Once such methods are available, there are a great many questions to ask :

Can obese persons be distinguished from non-obese persons and from each other by their tendency to show an increased drive or a decreased satiability? Does either pattern become intensified during periods of stress? Is there any connection between a pattern and biochemical or personality variables? Can the patterns be experimentally manipulated? And, ultimately, how can this information help our patients?

NEUROLOGY AND "NEUROLOGIZING"

In his delightful essay on "Drives and the C.N.S. (Conceptual Nervous System)"

Hebb (14) pointed out that, despite even determined attempts to escape "neurologizing," most psychological theories are influenced by our conceptions of the central nervous system. He therefore proposed that "if we must neurologize, let us use the best brand of neurology that we can find." Hebb's plea to his academic colleagues can be even more appropriately addressed to psychiatrists, for psychiatric theories have been influenced at least as much by neurologizing as have been those of academic psychology. Indeed, if we confine our attention to the history of drive theory, the parallels between academic psychology and medical psychology are striking.

During the first years of the century academic psychology was as strongly influenced by the instinct theories of MacDougall as was medical psychology-to-be by Freud's libido theory. The attempt to apply these theories in a systematic manner, however, gradually revealed their various deficiencies. In academic psychology the result was the radical repudiation of drive theory and the rise of behaviorism with its emphasis on immediately observable events. In psychiatry, the first reaction to the growing awareness of the deficiencies of drive theory was revisionism rather than revolt, and Freud left his libido theory standing uneasily beside the new ego psychology to which he increasingly devoted his attention. But this shift in emphasis only deferred the behavioristic assault. Although it came long after similar developments in academic psychology, and was never so methodologically rigorous, Sullivan's theory of interpersonal relations may be viewed as a behavioristic critique of psychoanalysis and particularly of its theory of drives. For Sullivan's goal was a shift of emphasis from the "mental apparatus" which had been Freud's concern to the immediately observable interpersonal events of the therapeutic situation.

There is no need to labor the benefits of behaviorism in obviating unnecessary assumptions, exposing useless constructs and in general tidying up our conceptual apparatus. Academic psychology and psychiatry have gained too much from this latter-day Occam's razor ever to long for a return of the good old days of transmutable drives and ambiguous energies. Nevertheless neu-

rophysiology is providing us with information so obviously relevant to behavior that it can hardly be ignored. If, instead of merely tolerating these new findings, we set to work to use them to construct new and better theories about drives, a great deal of exciting material lies at hand. And we could proceed with the comforting knowledge, not always available to our forebears, that these theories could be anchored to hard facts and tested at all kinds of convenient places. Already physiological psychologists have seen the possibilities and are applying these notions to their work on animals. Can clinicians afford to tarry?

SUMMARY

New physiological discoveries are providing the behavioral sciences with a unique opportunity for the reconstruction of traditional theories of motivation. We are no longer constrained, for example, to view overeating solely as a result of an increased hunger drive. This apparent contradiction results from the demonstration that the hypothalamic centers mediating hunger and satiety have separate anatomical localizations and separable behavioral consequences. Overeating can thus theoretically result either from an increase in hunger drive or from an decrease in satiability. The first possibility has generally been accepted with little question. The second has now been demonstrated by experimental damage to the satiety centers of animals who thereupon present the paradox of an animal which eats itself into obesity through a hunger drive which is actually reduced in intensity. Recent clinical studies suggest

that either decreased satiability or increased drive may occur in human obesity. Persons manifesting the "night-eating syndrome" report an inability to stop eating rather than any increased desire to eat. Obese persons who overeat in binges, on the other hand, report compelling urges to overeat at such times.

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HORACE AND MENTAL HEALTH

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One has not to search far among the personalities of classical times to find a reliable exponent of the principles of mental health. The life lived by Quintus Horatius Flaccus and the guides he proposed for happy living might well serve as material for a modern textbook entitled *Principles of Mental Hygiene*.

Authorities in this field of mental health are hesitant to say that psychological disturbance and the various aspects of mental disorders which today's psychiatrists have diagnosed and classified are more prevalent in our modern world than they were in days gone by. This much can be said: the formal awareness of emotional problems is one of the characteristics of our age. Furthermore, the specialists are ready to itemize the personality factors that characterize the mentally healthy person. In capsule form the mentally healthy person may be described as: 1. One who feels comfortable about himself; 2. One who feels right about other people; 3. One who can meet life's demands.

The mental hygienist, attempting to elaborate upon each of these points, constantly strikes chords, iterates themes which bring a smile to the lips of the admirer of Horace. Why not invite the poet from Apulia, *ex humili potens*, to speak in person upon this topic and, by suggestions and illustrations from his own life, expound the principles that make for emotional stability and mental adjustment? Perhaps this sophisticated 20th century can still glean something from the wisdom of the past.

With a gracious smile Horace responds to the invitation, mounts the rostrum, and assumes the role of clinical psychologist. A relieved expression appears on the faces of the psychologists in his audience as Horace prefaces his lecture, in his own simple and unforgettable manner, with one of their own fundamental principles: "You are not simply body without a heart!" (1)

Horace first approaches the idea that the mentally healthy person is one who feels

comfortable about himself. He draws upon scenes from Homer to indicate that one must not be mastered by one's emotions, whether they be fear, anger, envy, distrust, or any others. Paris, he implies, was mad, refusing obstinately to give up Helen even to enjoy personal safety, a kingdom, and a life of happiness (2). Next he cites Achilles and Agamemnon, childishly squabbling for their war prize. In their case, too, the trouble evolved from uncontrolled emotions (3). Invariably, the poet observes, those who let their emotions get beyond their control bring suffering to those closest to them (4).

Avarice and greed are, in Horace's estimate, a positive form of mental illness. He actually says so, and declares that the possession of estates and unlimited wealth cannot relieve the fever that torments the sufferer, for: "You're not taking care of the emotion!" (5). Anger, too, must be controlled: "Anger is temporary insanity; control this emotion!" (6). As for the mental torture induced by the passions of jealousy or envy, Horace declares that it exceeds all physical tortures that can be conceived (7). Ambition, too, on the part of one not fitted for the position to which he aspires is, in Horace's eyes, another manifestation of poor self-adjustment. The path of such a one will be strewn with unpleasantness and possible frustration (8). With a wry smile that implies "present company excepted," Horace adds a final observation on this point: "Select anyone at all from amid a crowd: his craving for money or for paltry popularity makes him a sick man" (9).

Once such passions and emotions are set in order, mental health is, to some extent at least, secured: "Let the soul find joy in the present moment and disdain to worry about what lies ahead and let it season the bitter things of life with a quiet smile" (10). Having learned the therapeutic powers of a bit of gentle laughter when things go contrary to his expectations or desires, the well-adjusted person, far from succumbing to frustration, shrugs his shoulders with the observation: "Nothing is in every respect perfect!" (11).

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The proof that such a reaction is not cynicism, Horace would insist, lies in the individual's ability to laugh at himself. This Horace shows that he could do in the amusing and exaggerated description of his own helpless state of victimhood as he is first caught, then tortured, by the garrulous and insistent *persona non grata* who accosted him one sunny morning along the Via Sacra (12). It is to provide a laugh at his own expense that he elsewhere draws the sorry picture of himself, a man in his mid-twenties, stammering in boyish embarrassment as he presented himself for an interview with the mighty Maecenas (13).

Horace would be the first to admit, with the psychiatrists, that everyone has certain basic needs. Unless these are satisfied, the emotional life of the individual is disturbed, with results which range in seriousness from the trivial to the extremely grave. Foremost among these needs is the desire for acceptance and security. Horace recalls that, returning to Rome after the Battle of Philippi, he faced a crucial period of transition in which he might easily have become the victim of a set of circumstances disruptive of his emotional stability. His father was dead; he was without friends, or funds, or job, in the Capitol; his military service had been with the defeated troops. How warped one's personality can become and how prone one is to manifest hostility when one suffers from deprivation of a basic need is evidenced by the cynical, embittered tone of his earliest poetic attempts, composed during the leisure hours provided by an insignificant and uninteresting job as a quaestor's clerk.

Fortunately, two young poets of the day manifested an interest in the unknown but promising author of the cynical verses and recommended him to the attention of one of the foremost citizens of the day, the wealthy patron of the arts and Augustus' friend and adviser—Maecenas (14). Horace's loneliness, disillusionment, and discouragement were dispelled when Maecenas invited him to join his social and literary coterie.

Horace next remarks that a mentally healthy person neither overestimates nor underrates his own abilities. Pointing to passages in his writings, he indicates his awareness of his own limitations: he gave up attempts to write verses in Greek (15),

refused to attempt epic poetry (16), and spoke modestly of the talents that were his (17). He even refused to lay claim to the title of "poet" at the time when he was writing his earlier satires (18), but acknowledges that in his later efforts—his Odes—there are present the 3 elements which he prescribes as requisites for great poetry, *viz.*, natural talent, inspiration, and the ability to utter noble thoughts (19).

A favorite passage eloquently indicates that he has achieved the success he desired and finds his need for security satisfied:

I have completed a monument more enduring than bronze and loftier than the royal pile of the pyramids, one which the wasting rain, the furious North Wind cannot destroy—no, nor a countless series of years nor the flight of ages. Not all of me shall die (20)!

Even more indicative of sound mental health, says Horace, is the ability to derive satisfaction from the simple pleasures of everyday life (21). With senseless extravagance many wealthy Romans of Horace's day were rearing sumptuous palaces and vulgarly displaying their wealth (22). In contrast to their restless, anxious, grasping avidity is the quiet delight that he finds in Maecenas' precious gift of the Sabine Farm (23). Only contentment with one's humble lot can bring peace of soul (24). Why, he asks, should he exchange his home in the hills for some luxurious, modern dwelling whose attractions will probably allure thieves—or raise his taxes (25)?

Horace points out that most men fail to find happiness in life and consequently suffer from various degrees of maladjustment simply because they cannot rest content with their lot in life (26). Not that he forbids one to devote his energies to self-improvement! Far from that! "There is measure in all things," he says (27); but, he concludes, it is the rare thing to strike this happy mean; consequently, those who have lived well-adjusted lives are in the minority (28).

At this point Horace interrupts his lecture to draw some papers from a briefcase. He begins to read: "Once upon a time, the story goes, a country mouse welcomed a city mouse in his poor hole, host and guest

alike being old friends"(29). The passage is lengthy—a delightfully vivid, Disneylike characterization of a sophisticated little city mouse who visits his old friend, a thrifty, hard-working country mouse, and prevails upon the latter to give up his toilsome life for the affluence and ease of the city. "At best," he tells his country friend, "life is short; you may as well get all the joy out of it that you can"(30)!

The advice seems sound; the host acquiesces; together the tiny friends scamper beneath the protecting shadows of the city walls and enter a luxurious dwelling. In the banquet hall are strewn the remains of a sumptuous feast. Now it is for the city mouse to play the role of host and he energetically sets about serving his guest the most tempting morsels. A sudden disturbance tumbles the two intruders from the elegant dining-couch as the terrifying barks of Molossian watchdogs and the clanging of folding doors give warning of the approach of some of the household. Quoting the final observation of the shrewd little country mouse, Horace concludes his recommendations about learning to derive satisfaction from the simple pleasures of life: "Then says the rustic: 'I have no use for such a life, and so farewell: my hole in the woods, secure from dangers, will console me along with my homely vetch'"(31).

Horace pauses, reaches for a glass of Falernian which someone has set conveniently near, relishes a sip of it, and continues: "The mentally healthy person is one who feels right about other people. I offer you a working principle: Not a soul comes into this world devoid of faults. The best is he who is loaded down with the least of them . . . One who expects his friend not to be offended by his own warts will pardon the other's pimples. It is but fair that one who asks indulgence for *his* faults should grant it in return"(32). He recommends that a tolerant, or even a kindly indulgent attitude be adopted in social relations. Emotional disturbance invariably results from poor social adjustment. In the case of the well-adjusted individual, his positive emotions are dominant. Love, particularly, contributes to his personality development, to a wholesome mental outlook, to a happy, well-adjusted life.

Horace selects a number of situations met in ordinary living to illustrate his point. He describes the tendency of a father or lover to overlook the faults of the loved one, for "love is blind"(33). Does not a father give such nicknames as "Chick" or "PeeWee" or "Stretch" to sons with physical peculiarities? A son's stinginess the indulgent father calls thriftiness; his quarrelsomeness gets the name frankness; his wily ways the father deems shrewdness(34). This tolerance must extend to all age groups. As a middle-aged bachelor, Horace remarks, he did not find it too difficult—although some do—to be understanding of the amorous and flirtatious inclinations of adolescents. In fact, he encourages them, for, he reminds his listeners, "You're only young once!"(35)

Underlying the entire pattern of one's healthy adjustment to his fellow men is the need for self-confidence. Early environmental factors contribute in large measure to the degree of self-confidence with which a person adjusts to social situations in later life. By numerous passages selected from his poems, Horace testifies that parental affection shed its warmth over his childhood and adolescent years. In touching lines he pays affectionate tribute to his father, a man of lowly birth and slight income: "Never while I am in my right mind could I be ashamed of such a father!"(36)

The affection of his cherished friends, too, contributed to Horace's self-confidence and thereby to his successful and happy living; for, he says, thinking of Vergil, Maecenas, and many others, "Nothing, so long as I am in my senses, would I compare with the joy a friend may bring"(37).

Horace pauses again as he notes that one of his audience has an inquiry.

"May I ask you, sir, why you never married? In view of the flirtatious tone frequently detected in your odes, I am inclined to think that you found the company of many a young woman delightful. Yet you remained a bachelor, even in spite of Augustus' insistence upon the importance of large families for the rehabilitation of Rome."

"Your point is well made, my friend," Horace replies genially. "The mentally healthy person must feel right about other people, particularly people of the other sex. I find it somewhat difficult to analyze the

circumstances which resulted in my bachelorhood. Certainly it was not any lack of esteem on my part for the nobility of the married state. Let me quote for you a few lines which express my sincere appreciation of the fact that stability and harmony in marriage is a great blessing: "Thrice happy they and even happier whom an unbroken bond unites and whom a love ne'er sundered by embittered quarrels shall not separate before life's final day" (38). Perhaps I may say that in my friends I found adequate satisfaction of my need for affection. Then, too, the tenor of my life was undeviatingly ordered by my complete dedication to literary efforts. This precluded, almost from the years of my early manhood, certain enjoyable but nonetheless distracting associations. You recall my avowal to Maecenas that my sole ambition was to win recognition and renown as Rome's first lyric poet (39). In the achievement of this goal I enjoyed the sense of fulfillment that a man's nature craves and that is satisfied, in the case of most men, by marriage. Thus, my life was free from the blighting element of frustration."

That the mentally healthy person is one who can meet life's demands is the final point that the Roman satirist and lyricist elaborates. Life is filled with difficulties and it requires strenuous effort to surmount them; for, Horace observes wisely, "Life grants nothing to man without much toil" (40). Self-pity has never helped anyone. It is for each one to find out what he can do about his problems and then *do it*. "*Nil desperandum*—Never despair!" warns Horace (41). One must be ready for the ups and downs that must be inevitably met. "The heart that is duly prepared for a change of fortune hopes in the face of misfortunes, grows wary when prosperity is prolonged" (42).

Since attitudes are power houses of psychological activity, the man with a well-balanced outlook on life, willing to face reality, will achieve that all-desirable sign of maturity that can be called the hallmark of the mentally healthy person, namely, emotional stability (43).

"I offer you a motto," Horace smilingly remarks, "if you want to acquire and preserve happiness. *Nil admirari* (44)! Many put too high a value on the material goods

and the honors of this world and allow themselves to become the unhappy victims of disturbing emotions. Make every reasonable effort to improve an unpleasant situation, but at the same time accept the fact that some conditions do not admit of amelioration. In that case the virtue of patience is needed" (45).

Life demands of each individual that as a member of society he assume his responsibilities to his fellow men and willingly utilize his talents or abilities for the good of the group. He must discipline himself to a mode of conduct that begets respect and affection rather than contempt and animosity from his associates. One who fails in this respect, whose self-centered disregard for his neighbor's pleasure is manifested by a disagreeable, non-conformist attitude, deserves the treatment he receives. Typical of those he has in mind, Horace says, is the unaccommodating singer: "All singers have this fault in common: when among friends who request them to sing they can never be persuaded to do so; but when no one asks them, then start and never let up!" (46). This unobliging attitude betrays a selfishness which manifests itself in countless offensive mannerisms.

Indicative of a realistic outlook is the individual's ability to set goals for himself which he can reach and a willingness to make his own decisions. Horace illustrates this from his own situation: Satire, he realized, might win him unpopularity, but he resolved to persevere in writing it, recognizing his limitations in other fields (47).

Calm reflection, an inner debate in which the various courses of action are evaluated, rejected or adopted, must serve as prelude to mature decisions. Reason, not emotion, must rule. Horace assures his audience that he often held such debates within himself (48).

A certain degree of serenity in one's pattern of living contributes valuably to mental poise. Life amid excitement, bustle, and tension of constant activity in Rome Horace found not only irritating but inimical to his concept of the good life (49). "From time to time I had to get away from the city," Horace acknowledges, "and seek relaxation in some such fascinating spot as sunny Tarentum—The corner of the earth that surpasses

all others in the smile it wears'(50). Or, if time would not permit me to journey all the way to the tip of the peninsula, it might be to cool Tibur with its echoing cascade and charming Temple of the Sibyl that I would betake myself, for Rome with its cosmopolitan air I often found uncongenial(51). Unrelieved pressure was unbearable! 'Mingle some moments of levity with your solemn hours of planning; it's fun to indulge in some nonsense on occasion'(52).

The poet pauses for another sip of Falerian.

"A friend, Lollius Maximus, is calling for me in a few minutes. We're going out to my Sabine Farm for the week-end. Just let me quote to you before I leave a prayer I once composed. It outlines my ideal of the happy life. I have found that it takes very little more than this to achieve a healthy adjustment to life and its problems: 'O grant me, child of Latona, I implore, to enjoy what I have and may I be permitted to live out my days sound in body and mind and enjoy an old age that is not devoid of honor nor of love of song I'(53). And now I say to you in parting what I once said to Lollius: Provided Jupiter grants me enough to live on, I shall acquire for myself a well-adjusted mental attitude"(54).

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THE CLINICAL EFFECT OF NORETHANDROLONE ON INCONTINENT MENTAL PATIENTS ACTION INDUCED BY NON-VERBAL COMMUNICATION

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When engaged in research with chronic psychotic patients in a mental hospital we often ask ourselves whether control experiments are necessary. Here we deal with a presumably stable population, hospitalized for many years, not responsive to treatment. Occasionally one of these patients emerges from a "back ward" and succeeds in leaving the hospital; this is, however, a rare occurrence, especially in patients who have reached deterioration to the point of being incontinent. Over a long period of years the course of such patients is continuously downward; if they improve under some new treatment, we willingly accept a causal relationship and believe that the improvement resulted from such new treatment. Control experiments, we often felt, were necessary to convince others of the reliability of our results; we ourselves were satisfied with the results of our investigation, based on and judged by clinical experience. As one of the present writers (M.G.) expressed it in a panel discussion: "No matched control group is necessary for a study in the setting of a mental hospital, where we deal with chronic psychotic patients who are long-term residents and who are well known to the medical and nursing staff and serve as their own control." We were dead wrong.

In 1958, Vlavianos and Fink(1) described the action of norethandrolone on incontinent mental patients. The potency of this steroid anabolist is experimentally determined by its action on the levator ani of animals. The authors considered logically that this action, if present in humans too, may be of influence on soiling mental patients. They treated 11 male soilers with 30 mg. of norethandrolone daily for 17 to 53 days and found that "8 patients had a positive response with no incontinence from 3 to 7 days after the start of medication" and that 3 remained continent after medication was discontinued. No controls were used. Vais-

berg, Michael, and Saunders(2) followed with a report on 9 patients treated with 30 mg. of norethandrolone daily for 3 weeks. Their results were similarly encouraging. One patient became continent and remained so even after the drug was discontinued; 6 improved markedly. "The patients served as their own controls—all of them having had these symptoms consistently for a minimum of 1 year(5)."

Soiling is one of the great problems in mental hospitals. In one of our wards with 65 deteriorated patients, 75-80% are constant soilers. This ward uses about 550 bed sheets per day. The added attention these patients receive necessarily is best expressed by the attendant-patient ratio which is 1 : 5.3 in this cottage as compared to an average of 1 : 9.2 in the rest of the continued treatment group. We were, therefore, interested to find out whether the results obtained with norethandrolone could be reproduced in our hospital.

PROCEDURE

Sixteen chronic psychotic male soilers were chosen for this study. One dropped out because of an intercurrent disease which necessitated his transfer to a medical ward; 15 patients remained under observation for 18 weeks. They were incontinent of urine and/or feces. They were ambulatory, reasonably healthy physically, and they had specifically no kidney and bladder trouble and no prostatic hypertrophy. A rectal examination was done and urine retention, if any, was measured. Urine and blood examinations (CBC, blood sugar, NPN, icteric index, and thymol turbidity) were done routinely and repeatedly. The diagnosis, age, length of hospitalization, and duration of soiling of each patient are recorded on Table 1.

All patients were started on a 2-week preliminary observation period. Patients were checked every 2 hours by the ward attendants who recorded all urinary or fecal soilings. Patients were allowed to go to the

¹ Springfield State Hosp., Sykesville, Md.

TABLE 1

	AGE	YRS. HOSP.	DIAGNOSIS	DURATION OF SOILING	IMPROVEMENT +=IMPR. ++=MARKED IMPR.		CONTINENT DURING 2 WKS. POST- EXPER. PERIOD	
					URINE	STOOL	URINE	STOOL
GROUP A			NILEVAR-PLACEBO					
1. L.C.	51	30	Schiz. heb.	4 yrs.	++	++	×	
2. J.N.	65	2	Cereb. art.	2 yrs. +	++	++		×
3. G.O.	55	18	Schiz. par.	4 yrs. +	++	+		
4. A.S.	44	22	Schiz. heb.	several mos.	+	+		×
5. H.W.	70	30	Gen. par.	4 yrs.	+	0		
6. C.W.	59	39	Schiz. heb.	4 yrs.	++	+		
7. E.Z.	52	24	Gen. par.	4 yrs.	1)	+		
GROUP B			PLACEBO-NILEVAR					
8. J.H.	62	22	CNS syph.	4 yrs.	++	+	×	
9. W.L.	69	31	Schiz. hep.	6 mos. +	++	++	×	×
10. P.M.	51	11	Gen. par.	4 yrs. +	0	0		
11. G.R.	32	13	Schiz. heb.	2 yrs.	++	++		×
12. O.H.	82	2	Cereb. art.	1 mo.	0	0		
13. L.C.	27	5	Schiz. cat.	6 mos.	+	2)		
14. R.S.	49	22	Schiz. heb.	4 yrs. +	++	+	×	×
15. L.S.	44	7	Schiz. cat.	7 mos.	++	+		3)

1) This patient was continent for urine during the first 7 weeks of the study and became incontinent later.

2) This patient was continent for stools.

3) Bedfast at time of post-experimental check-up.

toilet on their own volition. None was sent to the toilet unless he had soiled. The result of this 2-week period was taken as a base line of soiling for each individual patient.

After the 2-week preliminary observation period, all patients were started on medication. Half of them received norethandrolone² 10 mg. t.i.d. (Group A), the rest placebo, 3 tablets daily (Group B). The double blind technique was used and the ward personnel and supervisors were told that 2 drugs were being tested to determine whether or not they would affect the soiling habit of patients. In the beginning they suspected that one of these drugs was placebo, but they soon lost their suspicion for obvious reasons. Patients were not informed of the expected action of the drugs.

After 8 weeks the drugs were reversed, patients of Group A who had started with norethandrolone were put on placebo and patients of Group B who had started with placebo were put on norethandrolone. They were again observed for 8 weeks and medication was then discontinued. After 4 weeks

of interruption, the soiling habits were checked again for a post-experimental period of 2 weeks.

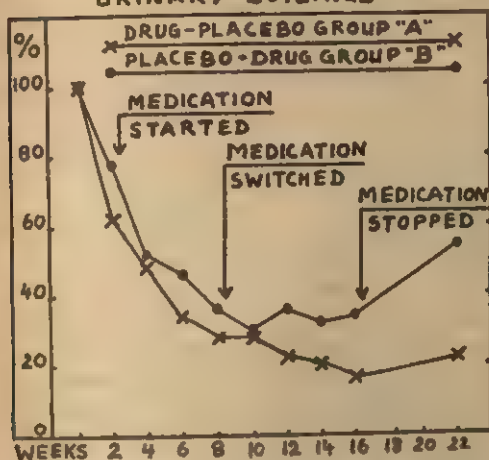
Changes were kept to a minimum during the whole study period. Patients who were on any additional drug were continued under the same medication. No new drug, especially no ataractic drug, was added at any time. One variable could not be eliminated, namely, the influence of the season with change from warm weather during which the patients spent their days in the yard to cold fall weather when they had to remain in the dayhall. Analysis of our data did not show any influence of this seasonal change on soiling habits.

RESULTS

On Graph 1, urinary continence in 2-week periods is reported as percentage of the base line established during the preliminary period. Soiling decreased to 27.2% in the norethandrolone Group A and to 35.3% in the placebo Group B during the first 8 weeks of observation. After observation for another 8 weeks under switched medication, soiling in Group A—now under placebo—was 15.6%, in Group B—now under norethandrolone—

² Thanks are expressed to the drug manufacturer, G. D. Searle & Co., who supplied this drug (Nilevar).

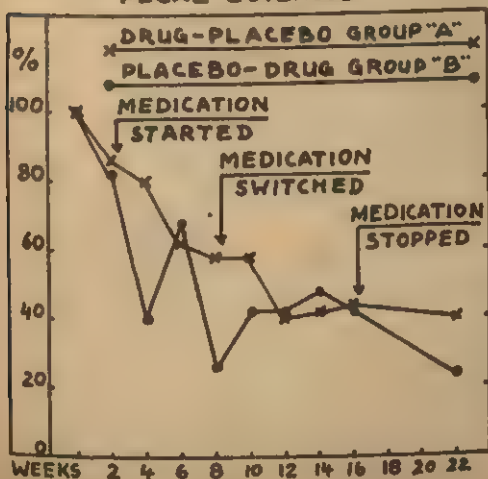
GRAPH 1
URINARY SOILINGS



34.6% of the initial value. Twelve of 15 patients reacted in a similar fashion regardless whether they were started on norethandrolone or placebo. The 2 worst soilers (#10 and #12) in the group starting on placebo showed only slight reduction of soiling under placebo as well as under the drug; a third patient (#7) started soiling under drug medication and continued under placebo. If these are eliminated from the list, the urinary soiling in the remaining patients was 9.9% of the initial value in the drug-placebo Group A and 12.9% in the placebo-drug Group B.

Reduction of fecal soiling shown on Graph 2 shows in general the same pattern

GRAPH 2
FECAL SOILINGS



as urinary incontinence. However, as the total number of fecal soilings is small, compared with urinary incontinence, the curve shows some oscillations. At the end of the first 8-week period, fecal soiling in the drug Group A was 57.4% as against 26.5% in the placebo Group B. After 8 further weeks on reversed medication, soiling was reduced to 44.2% and 42.9%.

Of the 6 organic cases in both groups, only 2 showed marked improvement. Three did not improve and 1 became worse. All 9 schizophrenics improved in their soiling habits, 7 of them showing marked improvement (Table 1). Mark Isaacs(3), in a study done in our hospital also found that the very sick schizophrenics benefit most by treatment with placebo.

A final check was made after all medication had been discontinued for 4 weeks. Fourteen patients were again observed for a 2-week period during which no medication was given. (One patient was bedfast during this period and is therefore not included.) Urinary incontinence increased from 15.6% to 22.6% in the drug-placebo Group A and from 34.6% to 53.6% in the placebo-drug Group B (Graph 1). Stool incontinence remained essentially unchanged in Group A and decreased further in Group B (Graph 2). Table 2 shows the remaining percent of soiling during the last 2-week period without medication for the 2 groups taken as a total (N=14). During this period, 4 patients were completely continent of urine, 5 of stools, and 2 of these of both (Table 1).

DISCUSSION

It is evident from Graph 1 that there is no difference in urinary incontinence between those patients who were given norethandrolone and those who were given placebo, both for 8 weeks. After the drugs were switched, urinary soiling continued on a markedly reduced level. Group A then under placebo for the last 8 weeks remained on a lower soiling level than Group B on drug. Fecal incontinence, too, is reduced under treatment with the drug as well as with placebo.

Stewart Wolf(4) defines the placebo effect as "that which is attributable to the administration of an agent but not to its

TABLE 2
Soiling in Post-Experimental Period in 14 Patients

	PRELIM. PERIOD 2 WEEKS (BASE LINE)	POST EXPR. PERIOD 2 WEEKS (AFTER 4 WKS. WITHOUT MED.)	REMAINING SOILING IN PER CENT
Total number of urine	522	213	40.9%
Total number of stools	241	89	36.9%

pharmacodynamic properties." It is obvious that the beneficial results obtained in the soiling habits of our regressed patients were not due to the pharmacodynamic action of norethandrolone. They must be due to some other factor connected with changes resulting from the execution of this study and possibly including the administration of placebos. The ward personnel suggested that the patients were embarrassed by constant checking and therefore used the toilet more frequently and voluntarily. Patients might have resented the frequent change of trousers after each soiling. Finally, the patient's general mental condition might have improved under the added attention. We have no proof for these surmises. As patients were not told of the expected action of the drug and as most patients were so much regressed that they would not have understood if told about it, improved soiling habits must have been induced by non-verbal communication. The conclusions are obvious:

1. Even the most deteriorated mental patients are likely to react to the administration of placebo and/or procedural changes

on the ward level connected with it.

2. Patients cannot serve as their own controls if conditions are changed in any way between "control period" and "study period," even if this change consists only in more intensive checking and observation.

3. It is suggested that the improvement in soiling habits of chronic psychotic patients observed by Vlavianos and Fink(1) and by Vaisberg, Michael and Saunders(2) was induced by factors other than the pharmacodynamic action of norethandrolone.

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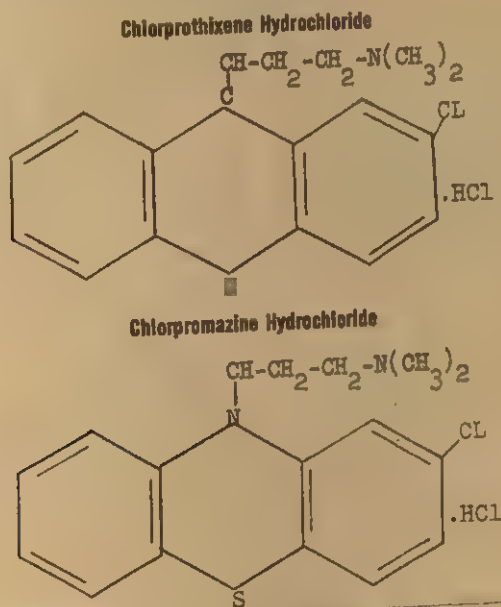
CHLORPROTHIXENE¹: A NEW PSYCHOTROPIC ENTITY

J. RAVN, M.D.²

Of all the psychotropic drugs that have become available in recent years, the phenothiazines, and chlorpromazine in particular, have been used most widely. All these drugs have been found toxic in varying degrees to the hepatic, hematopoietic and/or nervous systems and, despite their effectiveness, must therefore be used with caution. To circumvent this problem of toxicity, numerous attempts have been made to synthesize drugs possessing phenothiazine-like pharmacological activity, but which do not belong to this class of drugs. One such compound, chlorprothixene, has been reported as being comparable to chlorpromazine in potency

not been synthesized previously. Its complete chemistry, pharmacology and toxicology have been described elsewhere(1, 2). Briefly, this compound occurs in 2 isomeric forms, of which the trans form is the more active, pharmacologically. The chemical structure of chlorprothixene is much like that of chlorpromazine (Figure 1) except that the nitrogen atom in the phenothiazine ring has been replaced with an unsaturated carbon atom, allowing the side chain to be attached to the ring with a double bond. The replacement of the nitrogen atom appears to be the more important change, since it is this moiety of the phenothiazine

FIGURE 1



and range of therapeutic effectiveness, but far less toxic(1, 2).

CHEMISTRY AND PHARMACOLOGY

Chlorprothixene belongs to a group of compounds, the thioxanthenes, which has

¹ Truxal is the registered trademark of H. Lundbeck and Company, Copenhagen, Denmark, for chlorprothixene hydrochloride.

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molecule that has been suspect of producing toxic reactions.

Chlorprothixene has been used at this hospital in preference to all other psychotropic agents for the past 18 months, during which time over 600 patients have received the drug. Our preliminary appraisals of its effect on psychiatric patients have been presented elsewhere(3, 4). This report concerns the use of chlorprothixene in 258 fe-

male patients, all of whom have received it for 3 months or longer.

CLINICAL EXPERIENCE

Patients—The clinical material is grouped according to diagnoses and is listed in Table 1. Two hundred and five patients had received previous treatment (chemotherapy, somatotherapy and/or psychotherapy) at this or another hospital or by their family physician.

During the evaluation, appropriate laboratory tests were done on varying numbers of patients to determine the effect of prolonged administration of the drug on the hepatic, renal, neurological, and hematopoietic systems. In addition, several groups of patients were followed closely for clinical manifestations of cardiovascular, neuromuscular, and allergic reactions which might be related to the administration of the drug.

Dosage—Chlorprothixene was administered orally or parenterally, depending on the diagnosis and desired response. In patients who were extremely agitated, especially those in manic phases, 20 mg. of the drug was administered intramuscularly 3 to 5 times daily; when necessary, doses as high as 80 mg. were given t.i.d. Infiltrations and tenderness at the site of injection occurred rarely and only after prolonged intramuscular administration; when present, these

effects were far less pronounced than similar reactions observed with chlorpromazine. Once the patient's acute symptoms were controlled, the drug was administered orally. In changing dosage forms, we have found it advisable to reduce the parenteral dose, supplementing it with small oral doses. As doses administered in the latter form are increased, the parenteral dose should be further decreased and, finally, discontinued.

When treatment was initiated orally, the method of administration found most effective in schizophrenic patients consisted of an initial daily dose of 45-90 mg., given in divided doses. Because we found the drug to be relatively free of untoward reactions, we usually increased the dose rapidly every second or third day by total daily increments of 45-60 mg. When a satisfactory response was obtained, usually at daily doses ranging from 400-500 mg. (in a few patients total daily doses were as high as 800 mg.), the patient was maintained on this dose for 2 to 3 weeks, after which time it was slowly reduced to a maintenance level. Depending on the individual's response, daily maintenance doses varied between 45 and 200 mg. In patients with psychoneuroses, and those with endogenous depressive reactions, medication was initiated with 15 mg., t.i.d., and was increased to 30-45 mg., t.i.d.

None of the patients received concomi-

TABLE 1
Over-all Clinical Response to Treatment with Chlorprothixene

DIAGNOSTIC CATEGORY	NUMBER TREATED	MARKED	IMPROVEMENT			NONE
			MODERATE	MINIMAL		
Schizophrenia						
Hebephrenic	10	0	1	7		2
Catatonic	33	0	7	14		12
Paranoid	40	1	27	10		2
Manic-Depressive Psychosis						
Manic Phase	16	13	1	1		1
Depressed Phase	59	34	6	4		15
Cyclical	4	1	3	0		0
Atypical	6	4	1	0		1
Miscellaneous Psychoses						
Anxiety reaction	11	9	1	1		0
Endogenous Depression	14	10	3	1		0
Psychoneuroses						
Depressive Reaction	36	23	8	0		5
Anxiety Reaction	14	4	2	0		8
Neurasthenic Reaction	15	2	8	1		4
TOTAL	258	101	68	39		50

tant psychotropic agents during this evaluation. Somatotherapy was employed only after a patient had failed to obtain an optimal response to chlorprothixene.

Results—Response to treatment was based on improvement shown during personal interviews, changes in behavior and reactions toward other patients and the nursing staff, and increased participation in rehabilitative therapies. The over-all response of the patients is shown in Table 1.

Schizophrenic Reactions—Because they were under observation for longer than any other group, the course of treatment in these 83 patients (average age: 44.5 years) has been completely documented. When evaluated, following an average treatment period of 21 weeks, 67 (80.3%) of the patients improved, 14 of whom were discharged from the hospital. As noted in Table 1, the most outstanding response (70% marked or moderate improvement) was obtained in schizophrenia of the paranoid type. From the results shown in Table 2, it is distinctly apparent that the chronicity of illness is an important factor in the outcome of treatment. Of the 63 patients who had received previous treatment with either chlorpromazine, perphenazine, reserpine, mepazine or acepromazine, 44% responded more favorably to chlorprothixene, 35% responded as well, 6% did not respond as well, and 15% did not respond to any of the drugs (Table 3). Patients who had received previous

treatment with chlorpromazine commented that they did not feel as "heavy" or as drowsy while receiving chlorprothixene. In our experience, patients were more cooperative and communicative in psychotherapy and participated more fully in occupational therapy when they were receiving chlorprothixene than when they were receiving chlorpromazine. Patients who had been disturbed for comparatively short periods of time seemed to respond more rapidly to chlorprothixene than to insulin coma or to a combination of insulin coma and chlorpromazine. These patients became calm and relaxed, and their hallucinations and delusions disappeared; their physical condition was, of course, far better.

Manic-Depressive Reactions—Although the rate of improvement (80%) in this group of patients was comparable to that of the patients with schizophrenia, the degree of improvement (74% marked or moderate improvement) was significantly higher. Sixteen of the patients in the manic phase of their psychoses were extremely agitated and, in the past, 10 of them had required ECT as block therapy. Intramuscular administration of chlorprothixene controlled severe agitation rapidly, and none of the 13 patients with a marked response required ECT during treatment.

All the depressed patients received chlorprothixene orally and began to show signs of improvement within 2 to 3 weeks. Initial-

TABLE 2
Response to Treatment with Chlorprothixene in Relation to Duration of Illness

DURATION OF ILLNESS	IMPROVEMENT				TOTAL
	MARKED	MODERATE	MINIMAL	NONE	
Less than 5 years	0	15	7	2	24
More than 5 years	1	20	24	14	59
TOTAL	1	35	31	16	83

TABLE 3
Response to Treatment with Chlorprothixene as Compared to that with Previous Drug Therapy

RESPONSE TO CHLORPROTHIXENE	NUMBER OF PATIENTS
Better than previous medication	28
Equivalent to previous medication	22
Worse than previous medication	4
No response to all medications	9
TOTAL	63

ly, improvement was characterized by fewer sleep disturbances and, several days to a week later, by amelioration of depressive affect, and increased psychomotor activity. Depressive symptomatology recurred in 3 of the patients who had a marked response while receiving chlorprothixene. Thirteen patients, who had not responded fully, were selected for therapy with iproniazid (7 patients) and imipramine (6 patients). Mini-

mal improvement was seen in only 2 patients, both of whom had received imipramine. Twelve of the 13 patients obtained complete remission of symptoms following a course of ECT. The number of patients with cyclical and atypical manic-depressive psychoses is too small, we feel, to warrant discussion.

Miscellaneous Psychotic Reactions—Two of the 11 patients with acute anxiety reactions were in a predelirious condition on admission. The parenteral administration of chlorprothixene averted delirious episodes in both these patients and produced marked improvement in 7 of the remaining 9 patients. In general, the drug shortened the course of treatment in all 11 patients. Chlorprothixene controlled agitation rapidly, and "normalized" the patients' sleeping pattern quickly, making them receptive to psychotherapeutic measures. Ten (71%) of the 14 patients with psychotic depressive reactions showed a marked response to chlorprothixene administered orally and, in general, the course of improvement in these patients paralleled that described for the manic-depressive depressed patients. The depression was not deepened in any patients, nor did it return while the patients were under our supervision.

Psychoneuroses—The results obtained with chlorprothixene in these 65 patients, particularly in those with minimal degrees of anxiety, were comparable to those obtained with many of the currently available tranquilizing agents. On the other hand, however, the results obtained in patients with psychoneurotic depressive reactions differed greatly from those generally expected with a tranquilizing drug and small doses of insulin. As will be noted from Table 1, 31 (86%) of these patients showed a marked or moderate degree of improvement with the oral administration of small (30-90 mg.) daily doses of the drug. Because this degree of response was largely unexpected, it may indicate that chlorprothixene, while it resembles chlorpromazine in chemical structure and basic pharmacological activity, produces its effects through a different mechanism(s) of action which makes it an almost specific form of therapy for psychoneurotic depressive reactions.

TOLERANCE STUDIES

Extensive laboratory tests and clinical observations were made on the first 120 patients who received chlorprothixene, to study the drug's effects on vital physiological function. The results of these studies are given below.

Laboratory Results—On the first 100 patients, total leucocyte counts were made every second day during treatment; eosinophil and platelet counts were determined once a week. Urinalyses, with attention directed specifically to albumin and urobilinogen, were done twice a week. When required, as in patients with a urobilinogen increase of more than 1:10, the Takata-Ara, thymol turbidity and alkaline phosphatase tests were also utilized.

With the exception of one patient in whom a mild leucopenia (total leucocyte count of 2640) was observed, the results of blood studies showed no evidence of this effect. The reaction in this patient was not accompanied by a change in the neutrophils or granulocytes, and cleared spontaneously when the drug was discontinued. A transient eosinophilia was observed in 7 patients, but continual hematological testing during the subsequent 5½ months these patients were receiving the drug, failed to show additional hematological changes. Results of urinalyses and liver function tests remained within normal limits throughout treatment for all patients.

Clinical Observations—The blood pressure of the first 120 patients was measured daily throughout treatment. No abnormal fluctuations were noted. Transitory tachycardia was observed in 28 patients but, particularly since no changes in ECG tracings were found, the clinical significance of this effect was difficult to evaluate. In 5 patients, 20 to 25 mg. of chlorprothixene was administered intravenously while blood pressure measurements were made every other minute. No significant decrease in blood pressure was found during or following the administration of the drug. Sixty-one of these patients were tested daily for orthostatic blood pressure changes. A decrease of 30 mm. Hg. or more was noted in 9 (15%) of the patients; clinical manifestations accompanied this change in 6 patients. To ascertain the drug's

role in producing this effect, a controlled study was initiated. The blood pressure of 60 newly-admitted patients who had not previously received drug therapy and 46 patients who had received psychotropic drugs were tested for orthostatic changes before they were given drugs of any kind. Although clinical manifestations of orthostatic changes were not observed in any of the patients in either of these groups, decreases of 30 mm. Hg. or more were observed in 10 (17%) patients in the former group and 5 (11%) of the latter group. On the basis of these findings, it would appear that chlorprothixene does not contribute significantly to the incidence of orthostatic blood pressure changes found in institutionalized psychiatric patients.

SIDE EFFECTS

None of the more than 600 patients who have received chlorprothixene to date has developed clinical signs of parkinsonism, extrapyramidal disturbances, accommodation paresis, gastrointestinal disturbances or atony of the bladder. Seventeen patients who had developed photo-erythema while receiving chlorpromazine during the summer of 1959 did not demonstrate a similar reaction while on chlorprothixene. Skin reactions were observed in 7 patients. In 3, however, the reaction proved to be an allergic response and not related to the administration of the drug. Chlorprothixene was discontinued in 4 of these 7 patients, but was continued at a reduced level in the remaining 3 with no increase in adverse effects. Dryness of the mouth has been observed in approximately 1/5 of the patients receiving doses greater than 100 mg. a day. One-third of the patients treated to date with large daily parenterally or orally administered doses have complained of "weariness" at the start of treatment; however, this reaction gradually disappears within 1-2 weeks. Transient dizziness has appeared in several patients, but has never been severe enough to require discontinuing the drug. None of the nursing staff developed contact dermatitis from handling the drug.

COMMENTS

An unusual phenomenon not previously observed was noted in 3 of 7 patients who had developed a marked parkinsonism while receiving perphenazine. When given an oral dose of 15 mg. of chlorprothixene after perphenazine had been discontinued for a week, 3 patients became dizzy and nauseous within one hour. When chlorprothixene was administered in the same dose one week later, it was well-tolerated by all 3 patients. Since perphenazine is excreted slowly, we attributed this phenomenon to the potentiating properties of chlorprothixene.

In addition to using chlorprothixene as indicated above, we have also used it with good success in patients in whom narcotics, alcohol, and barbiturates were being withdrawn. One of these patients, a known morphine addict for 30 years was unable to complete withdrawal treatments on 6 previous occasions because of severe abstinence symptoms. When admitted, she had been taking a total weekly dose of 1000 mg. of morphine. Intramuscular injections of chlorprothixene were administered during the withdrawal of the narcotic and the patient scarcely exhibited abstinence symptoms of any kind. In general, the use of chlorprothixene in this type of indication minimizes confusion, restlessness and hallucinations, and allows the patient to regain full control of his facilities, often by the third day of treatment.

SUMMARY

In our experience in treating over 600 patients, 258 of whom are reported on in this communication, chlorprothixene has proved to be an effective broad-range psychotropic agent with a high degree of safety.

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MICROPSIA

JEROME M. SCHNECK, M.D.¹

Micropsia has been mentioned as a possible accompaniment of tumors of the temporal or temporosphenoidal lobe. It has also been related at times to episodes of petit mal. But micropsia may occur without apparent neurological defect or dysfunction, and it can be studied as a psychopathological phenomenon. The present case furnished an opportunity to evaluate some aspects of its psychodynamics. It should be of interest because of this, aside from the fact that micropsia is not often mentioned in the literature.

CASE DATA AND PSYCHODYNAMICS

During treatment, and after this 50-year-old patient had been intensively involved in exploring his personality difficulties, he spoke about a period between the ages of 6 and 8 when he experienced many episodes of micropsia. He observed all objects in the room getting smaller and smaller, with an accompanying impression of movement, until they were finally very small and off in the distance. He would feel comparatively large in relation to them. "It was like looking through the wrong end of a telescope." Then, without any impression of movement, the objects would suddenly return to their normal size when "I would shake myself out of it." At such times he felt very frightened. He was aware, during that age period, of feeling intensely lonely, and on re-evaluating this years later he recognized the presence of great anger that had been repressed. Much of the anger was directed at his parents.

The patient's childhood, including the years when he had the micropsia, was recalled as unhappy and unpleasant. His mother was controlling and overprotective. His father was largely unapproachable and lacked understanding. The patient was not permitted the freedom and ease of activity he witnessed in other children. His Jewish background set him further apart from others where he resided and attended school. This was accentuated by foreign elements in his speech, and in the clothing his mother made for him. Among other children he seemed different and strange. He

wanted his own individuality but sought acceptance too. He wanted to express himself but feared reprisal. He wanted to participate but became more the observer. His self-consciousness grew, as did his lack of self-confidence. More and more he felt apart from others while striving to make his own way among them.

The patient developed obsessive-compulsive personality patterns with passive-aggressive conflicts, rigidity, and anxiety in certain interpersonal relations. He achieved ultimately a good measure of success in the entertainment field and was trying, through treatment, to facilitate acquisition of professional goals and greater comfort in social situations by diminishing his rigidity, anxiety, and compulsive behavior. It became evident that power and control meant much to him in various ways on both conscious and unconscious levels.

The micropsia was an apparent reflection of his expansive needs at that time, with an attempt to counteract the hemmed in feeling he was experiencing. "I think it was expressing the wish I weren't confined to a small space. I think it was a reaction to being under great pressure." He believed the micropsia symbolized his wish to be big in relation to all the things about him. It would appear that unconsciously he may have been viewing objects as people, an indication of the trend of his pathology at the time, but a trend that his basic ego strength could hold in check with the avoidance of a psychotic break. The unconscious identification of objects with people and manipulation of the former in the micropsia would be one way in which he could attempt to cope with his intense anger. So in his feeling of weakness he tried to exercise a measure of control in symptom formation of a type which highlighted underlying fantasies of omnipotence. But while he became the large, central figure among all the small things about him, he was frightened in his insecurity. This fright accompanied excursions into fantasy in general, as a child and as an adult. He wanted to possess a great sense of importance but he felt uncomfortable nevertheless. While he wished to be liked, he craved respect.

The micropsia with the associated impression of movement of objects away from the patient was consistent with his sense of separation from people and things about him during that age period and to varying degrees into

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his adult life. The phenomenon was a reflection of his sense of loneliness.

The patient's micropsia occurred only in his own room when he was alone. He was considered frail by his parents who in their over-protectiveness would send him there to rest. Deprived of other activities, he felt annoyed. Through the years he was troubled by headaches, and he recalled that they were especially severe during the period when the micropsia was also experienced. It would seem that this symptom too was related to repressed hostility. The headaches subsided only during recent years.

It is of interest that the patient stated, without reference to the micropsia, that people seemed "large" to him, adding this was "speaking metaphorically," and that he seemed small in proportion. He had in mind their comparative abilities, ease of verbal expression, flow of ideas, quickness in seeing a point of view, and similar attributes. In these he regarded himself as inferior.

PSYCHODYNAMICS AND OTHER REPORTS

Sexualization of vision is widely known and has attracted much attention. Fenichel (1) summarized a variety of visual problems in this connection, stressing the eye as representative also of a pregenital erogenous zone. It can express oral-sadistic and oral-incorporative longings. In connection with micropsia, he makes a point of its serving as a defense against oral-sadistic strivings. One of Inman's cases is used as an example. Inman discussed micropsia in 2 boys. For them, objects symbolized the mother. The symptom appeared when intense oral needs were frustrated (2). I believe the inference in Inman's cases pertaining to the breast getting smaller and smaller would appear to fit in with the history of my patient. There is the ambivalence toward his mother, his strong feelings of deprivation, and his great anger. In his adult life, obvious evidences of oral conflicts were present in excessive smoking with unsuccessful efforts to control it, frequent episodes of overeating to the point of discomfort, and excessive concern with clarity of verbal expression, ability to make impressions on others in conversation, and to influence them through able verbal tactics.

Lewy reported that in his case the micropsia expressed endopsychic perception of ego disintegration that was imminent or

beginning (3). Object loss due to withdrawal of libido was also imminent or partially established. The endopsychic perception was projected into the outer world. Lewy's patient was 17 years old, and when hospitalized he appeared to have "a severe obsessional neurosis with schizophrenic coloring." Later he had periods in which he was confused and hallucinatory, with ideas of reference. Lewy mentions that his patient's reports of micropsia were vaguer than other references in the literature in that the appearance of objects moving away from him does not stand out clearly, and the idea of seeming to see things through the wrong end of a telescope was not as pronounced as with others. He felt justified, however, in classifying the case with others labelled micropsia. In connection with these reservations I note that his patient felt himself to be small too, along with the objects he saw. Lewy observed that the micropsia occurred in his patient when ego defenses were crumbling. I suspect that this trend paralleled a phase my own patient was experiencing, although for him it was not to reach the proportions of a psychotic episode as in the case presented by Lewy.

The oral fixations and aggressive components in my case and others were noted also by Bartemeier (4). His 28-year-old female patient began to have micropsia at the age of ten. The general theme pertains to aggression and the defense against it finding representation in the micropsia. More specifically, aggression may involve the function of the eye as a symbolically murderous weapon, a point which Fenichel chose to focus on when he commented on micropsia. Bartemeier's patient had fewer episodes as she grew older. Lewy took issue with Bartemeier on the differentiation between micropsia as a psychogenic reaction and that which accompanies neurological defects, the sense of movement into the distance being present in the former, and sudden appearance of objects as small and far away in the case of the latter. He doubted the ability to distinguish between them. I hesitate to offer an opinion based on my own clinical experience. The only other case of micropsia I recall definitely having encountered was that of a young man in his twenties, seen in consultation 15 years ago during military

service. His emotional disturbance appeared to involve schizophrenic elements. He described episodes of micropsia clearly. Unfortunately I had no opportunity to study the patient intensively or to investigate specifically the psychodynamics of his micropsia.

SUMMARY

Micropsia may accompany neurological defect or dysfunction as in tumors of the temporal lobe and petit mal. It may be encountered as a psychopathological phenomenon without structural defect. It is described relatively infrequently in medical literature. The symptom involves seeing objects or people as very small, off in the distance, as if one were looking "through the wrong end of a telescope." An impression of objects moving away, into the distance, is often described. A patient in psychiatric treatment told of a series of such episodes during his childhood. His micropsia apparently reflected his expansive needs counteracting a closed-in feeling, his reaction to heavy psychological pressures, an attempt to cope with intense repressed anger, a way of symbolically manipulating people identified as objects, and a method

of exercising control to cope with feelings of weakness and insecurity. The micropsia was a mirror of his feeling of separation from people and things about him during those childhood years, and it serves as an indication of his loneliness. It was a sign of diminishing ego strength, but was not followed by a psychotic break. Defenses were evidently reinforced later, judging by the patient's history and the personality patterns that evolved. The oral and aggressive components in this case were witnessed by others in studies of their patients. Pertinent references are mentioned here, and the observations integrated with my own findings. Similarities and differences in the cases are noted. Finally, mention is made briefly of another patient of mine with micropsia although there was no opportunity to evaluate the psychodynamics of his problem.

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SEXUAL DISORDERS AND BEHAVIOR THERAPY

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"Behavior Therapy" is a term used to describe a number of new psychotherapeutic methods which have been developing rapidly in recent years. Although the actual procedures vary from aversion conditioning to desensitization they all have a common theoretical basis(3, 4, 7, 9, 14).

A brief account of this rationale may be stated as follows: the position adopted by this theory is that neurotic behavior is acquired. The process of acquisition implied in the theory is derived from modern learning theory. If neurotic behavior is regarded as being acquired, then it must follow that such behavior will be subject to the established laws of learning. Current knowledge about the learning process concerns not only the acquisition of new habit patterns but also their elimination. The elimination of learned responses occurs either by the extinction process or by inhibition.

Wolpe(14) has defined neurotic behavior as "any persistent habit of unadaptive behavior acquired by learning in a physiologically normal organism." Anxiety is "usually the central constituent of this behavior, being invariably present in the causal situations." Similarly, Eysenck(3) postulates that "neurotic symptoms are *learned patterns of behavior* which for some reason or another are *unadaptive*." It should be noted, however, that neurotic symptoms may under certain circumstances also result "not only from the learning of an unadaptive response, but from the failure to learn an adaptive response"(3). A common example of this type is enuresis nocturna. The relearning and/or un-learning techniques which have been used therapeutically so far include: (Aversion conditioning (chemical or electrical), Desensitization based on relaxation, Training in assertive behavior, Use of sexual responses, Use of feeding responses, Extinction based on negative practice, Anxiety-relief responses. With the exception of the last 3 techniques, all of these methods have been used in the treatment of

various sexual disorders.

Although behavior therapy has been used in only a comparatively small number of cases of sexual disorder so far, the results have been promising. The purpose of the present paper is to give an account of the findings and to suggest further lines of development.

The disorders of sexual behavior which have been treated by behavior therapy include impotence, frigidity, voyeurism, fetishism, exhibitionism, homosexuality and transvestism.

Impotence: Wolpe(14) reports the successful treatment of 7 cases of impotence using the methods of behavior therapy, and Lazarus and Rachman(16) give an account of one successful case treated by these methods. The mean number of sessions taken to improve Wolpe's 5 "apparently cured" cases was 14.4, and 75 sessions to produce the changes in the 2 "much improved" patients. The 2 latter patients were also diagnosed as suffering from interpersonal anxiety. None of the apparently cured patients had this symptom but 2 of them had phobias associated with their impotence. Another difference between the apparently cured and much improved patients is to be found in their neurotic tendency scores (obtained by the Willoughby Scale). The mean score for the cured patients was much lower (26.5) than that of the improved patients (51.5). These differences suggest the possibility that impotence associated with high neuroticism scores and/or interpersonal anxiety may be more resistant to behavior therapy.

The 3 methods of treatment used in these impotence cases were: desensitization, use of sexual responses, use of assertive responses. The desensitization method has been described in detail by Wolpe(14) and Rachman(7). Briefly, it consists of inhibiting the anxiety responses provoked by phobic or noxious stimuli. The lasting inhibition of these responses is gradually developed by the controlled and systematic evocation of anxiety followed by relaxation. The thera-

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pist begins by presenting only mildly disturbing visual images. Each presentation of a noxious image is immediately followed by deep relaxation. When the emotional effect of the milder images has been considerably reduced or eliminated, the therapist then presents slightly more disturbing images until even the most anxiety-provoking situation can be pictured without disturbing the patient. This procedure of gradually working along the patient's hierarchy of disturbing objects or situations may take from one to a hundred or more sessions depending upon the severity and complexity of the syndrome. Before starting the process of desensitization, the therapist trains the patient in the methods of deep relaxation (with or without hypnosis).

The second technique, the use of sexual responses, is based on theoretical grounds similar to those of desensitization. The use of sexual responses is particularly valuable where the sexual behavior is only partially inhibited. "The patient is told that he must on no account perform sexually unless he has an unmistakable, positive desire to do so, for otherwise he may consolidate or even extend his sexual inhibitions" (14). The patient may be advised, for example, to engage several times in sexual activities (with the understanding of his partner) without attempting intercourse. With each repetition of relaxed sexual play in which no criterion is set, the patient's anxiety decreases. When a significant decrease in anxiety has been achieved the patient is advised to attempt intercourse only if and when he feels *strongly* impelled to do so. Wolpe states that patients instructed in this way experience "increasingly strong erections, and usually after a few sessions coitus is accomplished and then gradually improves."

The third technique, the use of assertive responses, Wolpe derived partly from Salter (12) and is useful in overcoming social inhibitions and anxiety. The patient is trained to use assertive, expressive behavior particularly in those social situations (or more usually, with specific types of people) which provoke anxiety. The aim of this technique is to develop an inhibition of social anxiety by the use of assertive behavior.

In all but one of the 7 cases treated by

Wolpe, the use of sexual responses was combined with one or both of the two associated procedures. In the case reported by Lazarus and Rachman, the methods of relaxation and systematic desensitization were used in the successful treatment of a 32-year-old male patient.

The indications are that the methods of behavior therapy are of value in treating impotence. There is also reason to believe that the methods used in treating impotence could be equally applied to cases of frigidity. To date however there is only one recorded case of this type. Wolpe (14) successfully treated a woman complaining of frigidity and interpersonal anxiety by a combination of desensitization and the use of sexual responses.

Exhibitionism: Bond and Hutchison (1) obtained marked improvement in a patient with a severe and long-standing case of exhibitionism by using the reciprocal inhibition technique. The patient was a 25-year-old married man of average intelligence. His first exposure occurred at age 13 following sex play with a younger girl. His exhibitionism continued throughout adolescence and had reached "bizarre proportions" by the time he reached adulthood. The attacks of exhibitionism were preceded by tension, dread and sexual excitement. Attacks were often provoked by the perception of attractive young women.

The antecedent tension was constant and the patient often exposed several times a day. He had been convicted of indecent exposure on 11 occasions and had as a result spent a considerable amount of time in detention.

The severity of his condition is best illustrated by the author's account, "A frequent practice was to hide completely nude in a small wooded area in the centre of the town where he then lived, and spring out and expose himself to the first woman who passed." Various types of therapy had failed to relieve his condition.

It was decided to attempt Wolpe's desensitization procedure and the patient was accordingly trained to relax. A hierarchy of exposure-provoking stimuli was constructed and the patient gradually desensitized over a period of 30 sessions. By the eighth interview the patient evidenced distinct improve-

ments. He was less tense, less prone to expose himself and able to venture out unaccompanied. As the desensitizing therapy continued, further evidences of progress appeared. His exhibitionist urges declined in frequency and strength, his sexual fantasies diminished and he reported an improvement in his sexual relations with his wife.

Therapy had to be discontinued after 29 sessions but the patient reported in succeeding months that he continued much improved. He then exposed himself in a feeble and uncharacteristic manner in a store. The patient was returned for treatment on a weekly basis and 2 months later no relapse had occurred.

Bond and Hutchison's view is that

exposure either follows some environmental stress . . . or is provoked by an encounter with a female of specified age and physical appearance . . . The exposure can be thought of as an instrumental act designed to reduce an anxiety response cued off by certain classes of stimuli, and desensitization therapy would constitute an appropriate form of treatment.

This account provided by Bond and Hutchison conforms to a case treated by Wolpe (14).² He obtained marked improvement in a 25-year-old patient with a history of exhibitionism dating back to childhood. This patient also suffered from social anxiety and had particular difficulty with authority relationships. The impulse to exhibit frequently arose after frustration or anxiety had been induced by his submission to authority. Treatment consisted of instigating assertive behavior and desensitization to social situations which provoked anxiety. Wolpe (15) states treatment results :

a tremendous general increase in well-being and heightened ability to deal adequately with social situations. Nevertheless a small degree of autonomous tendency to exhibit, apparently purely sexually based continued and only ceased when the patient married in 1956.

Voyeurism : There is 1 case report of a voyeur who was markedly improved by behavior therapy (14). In this case, as in some

² I am grateful to Dr. Wolpe for supplying additional information on this and other cases reported in his book (14).

of the homosexuals discussed below, the sexual disorder disappeared as the patient's other symptoms improved. A 40-year-old male complained of writer's cramp and voyeurism. Clinical examination revealed the presence of deep and long-standing interpersonal anxiety however. Assertive training and desensitization were initiated and a considerable improvement in the patient's social behavior was obtained at the end of 5 months. The voyeuristic impulses "had completely disappeared even though beyond some discussion of its relation to frustration no specific treatment was directed against it" (15).

Transvestism : Davies and Morgenstern (2) report an unsuccessful attempt to treat a transvestite patient by apomorphine aversion conditioning. It is impossible however to ascertain any possible effects of this therapy on the patient because of the marked organic syndrome involved. The patient had temporal lobe epilepsy and cerebral cysticercosis. The authors concluded that the transvestite behavior could be curbed in the hospital but not at home.

Fetishism : After examining the literature, Raymond (10) was able to find only 3 cases of fetishism in which treatment had produced successful results. Although this disorder has been extensively described, it remains extremely resistant to therapeutic modification. For this reason Raymond's successful treatment of a fetishistic patient is of considerable interest and value.

A 33-year-old married man was given treatment on probation after having been convicted of causing wilful damage to a perambulator. Since the age of 10 he had been fetishistically attracted by prams and handbags. These objects aroused him sexually and he obtained a release of tension by attacking them. The attacks on prams had resulted in several convictions and he had spent several periods in mental hospitals. He had not benefited from previous therapy including psychoanalysis.

Raymond constructed a conditioned aversion programme similar to that used in the treatment of alcoholism. The patient was shown a collection of handbags, prams and colored illustrations, "after he had received an injection of apomorphine and just before nausea was produced." Treatment

was given 2-hourly day and night, no food was allowed and he was kept awake with amphetamine. Treatment was suspended after 1 week and the patient went home temporarily. He returned 8 days later and reported some progress. Treatment was then continued for a further 9 days. By this time he was showing strong aversion to the fetishes. The patient was then seen at an outpatient clinic for a period of 6 months. A booster course of treatment was then given in the hospital.

Nineteen months later the patient "still appeared to be doing well." He no longer had fantasies concerning handbags and prams, his sexual relations with his wife had greatly improved, his probation officer reported very noticeable progress and he had no further trouble with the law.

Raymond favours Binet's theory that the "predisposition to fetishism . . . may be in an unusual capacity to develop conditioned responses and that this capacity may be used as an asset in treatment."

In a case seen recently by the present writer faradic aversion therapy was attempted. The patient was a 32-year-old bachelor who was sexually aroused by women's buttocks and bloomers. He had never had intercourse but masturbated with fantasies concerning these fetishes. The patient was given 5 aversion conditioning sessions. Three stimulants were used: the patient's photographs of women wearing bloomers, visual images of women with attractive buttocks, visual images of bloomers. The electric shocks were administered with an induction coil and finger electrodes. The patient was given 10-15 trials with each stimulus at each session. The strength of the shock was gradually increased after every 4 trials. During the first session the patient complained that the visual image of buttocks was constantly with him. At the fifth session he could only obtain the images with great difficulty. The time elapsing between the instruction to obtain the image and its appearance was found to increase significantly from session to session. After the final session the patient reported feeling better and said he no longer felt attracted by buttocks, had ceased having his former fantasies and had disposed of his numerous pornographic photographs. Unfortunately it is impossible to draw any firm conclusions from this pilot study since the therapeutic program was not completed and because the case was considerably complicated by several other abnormalities, includ-

ing transvestite impulses, and was receiving other forms of treatment at the same time as the conditioned aversion sessions.

Homosexuality: Freund(5) remarks on the pessimism often expressed by therapists regarding the treatment of homosexuals and argues that insofar as psychotherapy has any beneficial effect, this is attributable to a particular causal element. This causal element, he says, is "the encouragement of behavior patterns which emphasize restraint or complete abstinence from homosexual behavior, and which involve heterosexual behavior." Freund accordingly devised a conditioning programme designed to inhibit homosexual and stimulate heterosexual behavior. He adapted and developed the aversion procedures commonly used in the treatment of alcoholism.

Freund's treatment consisted of the administration "of an emetic mixture by subcutaneous injection." While the noxious effects of the injection were being experienced the patient was shown slides of dressed and undressed males. In the second phase of the treatment, the patient was shown films of nude and semi-nude females approximately 7 hours after the administration of testosterone.

Freund reports the results of this type of therapy on 47 patients. Follow-up studies 3 and 5 years after treatment indicated that 51% of the patients showed no improvement; 14.9% temporary improvement; 25.5% permanently improved; the remaining 8.5% were not adequately documented and hence excluded from the final analysis.

Freund concludes that his therapeutic results do not differ in quality or degree from those claimed by other methods. Such rule-of-thumb comparisons with other reports are, however, of little value because of the numerous variations in patient selection, evaluation of outcome and other important but uncontrolled variables. It is a great pity that Freund did not include in his otherwise valuable study a matched control group. Another important aspect of this treatment which would repay investigation is the effect, if any, of booster treatments such as that used by Raymond(10) in his treatment of a fetishist. For example, would boosters reverse those cases which relapsed

or, better still, prevent them from relapsing at all? An interesting innovation is the systematic inclusion of positive, adient stimulation which complements the aversion therapy.

An early attempt to use aversion conditioning is found in a brief report by Max (6). He claimed the successful treatment of a homosexual with the use of faradic aversion conditioning. Unfortunately it is impossible to assess the value of this report because of its brevity. Stevenson and Wolpe (13) recently reported the successful treatment of 2 homosexuals using non-specific behavior therapy. They were able to produce marked improvements in these cases with the use of assertive training, desensitization and environmental manipulations. The importance of this study is that it illustrates how a sexual disorder may be treated in a non-specific manner by improving the patient's mental health generally.

Despite the considerable amount of literature on the subject, the nature and causation of homosexuality are still unclear. If we are to make progress in the treatment of this disorder more investigations like that of Freund will have to be conducted. These further studies should include control groups and also explore the possibility of substituting faradic for chemical aversion procedures. In addition, further attempts should be made to treat homosexuals in the non-specific way used by Stevenson and Wolpe(13) in those cases where such a procedure appears appropriate.

DISCUSSION

On the evidence available it is fair to conclude that behavior therapy may prove valuable in the treatment of sexual disorders. Perhaps the best attitude at this stage is one of cautious optimism.

The most convincing advance so far has been in the treatment of impotence and, possibly, frigidity. On voyeurism, fetishism and exhibitionism more clinical trials are needed. In cases of homosexuality it seems that there is a need for more carefully designed methods and information concerning the nature of this disorder.

All the methods employed to date, ranging from aversion conditioning to assertive training, have been justified to some extent

at least. It is probable that most cases require a combination of the available methods. It is to be hoped that these techniques will be refined with further experience and also that new procedures will be forthcoming.

Some suggestions for developing the behavior therapy methods can already be offered on the basis of present knowledge. One possibility is the greater use of faradic as opposed to chemical aversion conditioning. Some of the advantages promised by faradic aversion conditioning are that it permits 1. More precise control of the situation by the therapist; 2. Greater flexibility in manipulating both the conditioned stimulus and the unconditioned stimulus; 3. More accurate and systematic measurement of the patient's specific responses and, hence, his general progress. In addition, the faradic method makes less demands on medical and nursing staffs and can often be conducted on an outpatient basis.

A second possibility is the use of Wolpe's (14) anxiety-relief technique in the treatment of voyeurism, exhibitionism and fetishism. There is a hint present in the few cases reviewed here and elsewhere(11) that in many of these patients the abnormal sexual act is preceded or precipitated by an accumulation of tension. The anxiety-relief technique is designed to produce greater control of anxiety or tension and may, therefore, prove useful in such cases. Briefly, the technique is as follows. The patient is given a strong electric shock and told to say the word "calm" when the pain and tension become unbearable. At this, the therapist switches off the current and the patient experiences considerable relief. This procedure is repeated 10-20 times per session with one minute rest periods between trials. In this way the patient is given a degree of voluntary control over his feelings of tension and anxiety. Naturally, this method must be used with caution.

A third suggestion is provided by Freund's(5) treatment of homosexuality in which he emphasizes the necessity for stimulating and encouraging positive sexual behavior in addition to eliminating abnormal sexual activities. It may often prove unwise to concentrate on the negative aspects of the patient's behavior and hope or assume

that adaptive sexual activity will automatically follow. Wolpe's use of sexual responses is an important method to be borne in mind for this purpose.

SUMMARY

An account is given of the available results of behavior therapy in the treatment of sexual disorders. To date attempts have been made to treat impotence, frigidity, voyeurism, exhibitionism, transvestism, fetishism and homosexuality. The results suggest that the methods of behavior therapy can be applied with success in treating sexual disorders. Some additional suggestions are made.

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FACTORS IN SELECTION OF PSYCHIATRIC TREATMENT FOR INSTITUTIONALIZED AGED PERSONS

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Recent investigations have shown that not only the type of illness but also sociopsychological factors influence the type of psychiatric treatment a patient receives. As shown by Hollingshead and Redlich(2), persons from the upper social classes, as defined by education, occupation and place of residence, are more likely to be selected for psychotherapy, while somatic treatment or custodial care is more common among the lower social groups. Rosenthal and Frank (6) reported an almost straight line relationship between educational level and frequency of referral for psychotherapy in an outpatient clinic. In another clinic, Myers and Schaffer(5) found that the higher a person's social class the more likely he was to be accepted for psychotherapy and treated by highly trained personnel intensively over a long period of time. In a study of a private, nonprofit mental hospital, Kahn, Pollack and Fink(3) found that better educated, native-born and younger patients were most likely to receive psychotherapy as their sole form of treatment, while EST was more frequently prescribed for the older, foreign-born and more poorly educated patients.

This paper reports on a systematic investigation of the relation of specific characteristics in residents of a home for the aged to the selection of psychotherapy, other forms of psychiatric treatment or no psychiatric treatment.

METHOD

The population studied was a random sample of 160 persons, 65 years of age and over, residing in the Home for Aged and Infirm Hebrews of New York.

¹ From the Office of the Consultant on Services for the Aged, New York State Department of Mental Hygiene, Queens Village, N. Y., and the Home for Aged and Infirm Hebrews of New York.

² We are grateful for the cooperation of Frederic D. Zeman, M.D., Director of the Medical Services of the Home for Aged and Infirm Hebrews of New York.

A staff psychiatrist examined each patient and entered his observations in a standard way on a precoded form. The psychiatrist noted the presence or absence of chronic brain syndrome or other psychiatric disorder, the degree of the disorder, an opinion as to the need for psychiatric treatment, and the type of treatment indicated.

In addition each patient was given 2 brief psychological tests of mental status. These were a 10-item questionnaire testing orientation, memory and general information, and the "Face-Hand Test," measuring ability to perceive two tactile stimuli simultaneously applied to the face and hand(4).

The relationship of the recommendations for psychotherapy, "other" psychiatric treatment, or no treatment to specific characteristics and performance of the patient was correlated.

RESULTS

Recommendation for Psychiatric Treatment: In the psychiatrist's opinion, 84% of the 160 persons needed psychiatric treatment. Psychotherapy was the treatment recommended for 26% of the group; a recommendation for "other treatment" such as milieu therapy or drugs was made for 58% of the group; 16% were not considered in need of any psychiatric care.

Education: The relation between the type of psychiatric treatment recommended and educational background of the patient is shown in Table 1. Patients recommended for

TREATMENT RECOMMENDED		MEAN EDUCATION	DIFFER- ENCE	t
Psychotherapy	(42)	8.7		
Other Treatment	(71)	7.2	1.5	2.32*
No Treatment	(21)	8.1		
Total	(134)	7.8		

* Significant at .05 level.

psychotherapy had a mean educational level of 8.7 years, whereas those recommended for other forms of treatment had a mean of only 7.2 years. The difference between these groups was significant at the 5% level. Patients for whom no psychiatric treatment was recommended had an educational level of 8.1 years.

Age: As shown in Table 2, the patients

TABLE 2
Psychiatric Treatment Recommendation and Age

TREATMENT RECOMMENDED	MEAN AGE	DIFFER- ENCE	t
Psychotherapy (42)	79.4	2.8	N.S.
Other Treatment (88)	82.2		
No Treatment (23)	78.7		
Total (153)	80.9		

recommended for psychotherapy were, on the average, almost 3 years younger than patients recommended for "other kinds" of psychiatric treatment, although the difference is not statistically significant. The group for whom no psychiatric treatment was recommended was slightly younger than the psychotherapy group.

Sex: The sample was predominantly female, reflecting accurately the population of the Home. Males (27% of the sample) constituted 21% of those for whom psychotherapy was recommended, 28% of those for "other treatment" and 32% of the group for whom no treatment was recommended. These differences fall short of statistical significance.

TABLE 3
Psychiatric Treatment Recommendation and Sex

TREATMENT RECOMMENDED	PERCENT	
	MALE	FEMALE
Psychotherapy (42)	21%	79%
Other Treatment (93)	28%	72%
No Treatment (25)	32%	68%
Total (160)	27%	73%

Chronic Brain Syndrome: The relation of treatment recommendation to the evaluation of chronic brain syndrome is shown in Table 4. There was very little difference be-

TABLE 4
Psychiatric Treatment Recommendation and Evaluation of
Severity of Chronic Brain Syndrome

TREATMENT RECOMMENDED	CHRONIC BRAIN SYNDROME PERCENT	
	NONE OR MILD	MODERATE OR SEVERE
Psychotherapy (42)	64%	36%
Other Treatment (93)	57%	43%
No Treatment (25)	80%	20%
Total (160)	63%	37%

tween the group recommended for psychotherapy or "other treatment" with respect to the presence or severity of chronic brain syndrome. Sixty-four percent of the psychotherapy referrals were rated as having no or mild CBS as compared to 57% of the "other treatment" group. In contrast, 80% of the no-treatment group were so rated.

Mental Status Questionnaire: A marked difference between the psychotherapy and other treatment groups was shown for number of errors on the Mental Status Questionnaire (MSQ). Eighty-six percent of the "psychotherapy" group made less than 3 errors, but only 63% of the "other treatment" group did as well, a difference significant at the 1% level of confidence. The "no-treatment" group fell in between with 76% making so few errors.

TABLE 5
Psychiatric Treatment Recommendation and MSQ Error
Score

TREATMENT RECOMMENDED	MSQ ERRORS PERCENT	
	0-2	3-10
Psychotherapy (42)	86%	14%
Other Treatment (93)	63%	37%
No Treatment (25)	76%	24%
Total (160)	72%	28%

Face-Hand Test: Of the persons recommended for psychotherapy 77% were negative on the Face-Hand Test, compared to only 44% of those recommended for other treatments (Table 6), a difference significant at the 2% level. The "no-treatment" group fell in between, with 68% negative.

DISCUSSION

In general, psychiatric values have tended to restrict the use of psychotherapy to young

TABLE 6
Psychiatric Treatment Recommendation and Response to
the Face-Hand Test

TREATMENT RECOMMENDED	PERCENT	
	NEGATIVE	POSITIVE
Psychotherapy (42)	77%	23%
Other Treatment (93)	44%	56%
No Treatment (25)	68%	32%
Total (160)	63%	37%

adults. In recent years more interest has been shown in treating older persons by such methods. The selection of patients for psychotherapy, however, still appears to be influenced by a number of social factors which tend to eliminate older persons. The high percentage of persons recommended for psychotherapy in The Home for Aged and Infirm Hebrews is notable especially because almost all the residents were foreign born and many had difficulty in speaking English. These are factors which militate against referral for psychotherapy in our society. The Home, however, has pioneered in the use of psychiatric treatment, including psychotherapy, with the aged(1). The staff psychiatrist doing the evaluations for this study undoubtedly more readily recommended persons for psychotherapy than is customary. Nevertheless, our study has shown that even in this institution referral for psychotherapy is influenced by social and cultural characteristics of the patient. Referral for psychotherapy is more likely to be made with persons who are better educated, who are more alert and who are operating at higher levels of intellectual functioning. There is also a slight tendency for psychotherapy to be recommended more often for females, younger persons, and those without chronic brain syndrome, but these differences fail to be statistically significant. In general then, the selective factors evidently affecting their recommendations for psychotherapy are still comparable to those noted in studies of other populations.

The most common interpretation advanced to account for the relationship of sociopsychological factors to selection of psychiatric treatment is that psychiatrists tend to select for psychotherapy persons

who are most like themselves in terms of their social characteristics.

Kahn, *et al.*(3), have emphasized that the critical factor in selecting patients for psychotherapy may be the possible communicative interaction between therapist and patient. From this point of view it is understandable that those persons who are better educated, functioning at a superior intellectual level as measured by the Mental Status Questionnaire, and more alert as measured by the Face-Hand Test, would be more appealing to the psychiatrists as possibilities for psychotherapy.

These findings are of importance because they appear to illustrate that psychiatrists believe that a psychotherapeutic relationship requires discriminatory capacity, conversational ability, good memory, and interest in establishing and maintaining a patient-doctor relationship. This psychiatric attitude is contrary to what is often actually discovered in medical and psychiatric practice. Experience with aged ill patients has revealed that brain-damaged, poorly educated persons with disturbance of orientation, memory and desire can make use of supportive personal relationships. They can benefit from a controlled patient-doctor relationship in which the development of insight is not an aim. It is possible that the very characteristics which provoke their rejection as candidates for psychotherapy may be indications rather than contraindications for such treatment. As has been pointed out(1) the helplessness of the brain damaged person who has limited intellectual resources on account of early social and educational deprivation may be more amenable to personal treatment techniques which involve implicit suggestion and are contingent upon his rapid and complete delegation of special powers to the physician.

CONCLUSION

The selection of aged patients for psychotherapy appears to follow the same sociopsychological trends as in younger persons. This manner of selection may tend to weed out the most helpless, anxious and most psychotherapeutically malleable candidates for psychiatric care.

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CLINICAL NOTES

(The Clinical Notes report the findings of the authors and do not necessarily represent the opinions of the Journal.)

THE TREATMENT OF ANXIETY IN PRISON INMATES

HARVEY BLUESTONE, M.D.¹

The value of the tranquilizers in the mental hospitals is well established, but less well-known is their usefulness in the penal institutions. Emotional disorders are common to both and it would not be an exaggeration to say that more problems in management are apt to be found in the latter.

Reaction to stress takes many forms in prison inmates as a result of confinement, boredom, close and continuous contact, lack of privacy, aberrant sexual behaviour as well as the response to sexual overtures. The anxiety induced by these pressures may thus range from mild neurosis to severe emotional disorders, and the management of these in a prison population poses difficulties not encountered elsewhere and which tax the patience and judgment of the attending physician. Not only must he consider the desired clinical effect, but he must always be mindful of other considerations peculiar to such an institution. Thus, transfer of medication, frequently by sale, from one inmate to another, is commonplace and requires careful screening of the patients as well as rigid supervision of drug therapy, both in amount and kind.

It may seem surprising, but it is here that a drug may assume a "status" symbol, depending on its effect on cortical function. Barbiturates fall into this category because of the changes in sensorium they induce, or, as they are called by addicts or potential addicts, "kicks." As a result, the use of barbiturates has declined progressively, especially with the advent of the phenothiazines.

Extensive experience with these agents has demonstrated their value in the treatment of tension and anxiety as well as in various psychosomatic disorders, such as

headache, gastrointestinal disorders, and palpitations. As in other institutions, each new compound has been tested in an effort to determine whether it provided advantages over therapies previously in use, with different criteria obviously in mind. The introduction of chlorpromazine was probably the most significant change, superseding as it did the barbiturates which were then prescribed where a "sedative" was indicated. However, and somewhat paradoxically, excessive motor inhibition tended to reduce the usefulness of this compound. In addition, extrapyramidal stimulation introduced an element disturbing to these patients, and this in general, has been the greatest liability to this and succeeding phenothiazines.

More recent experience with thioridazine (Mellaril) as evaluated in 85 cases has been uniformly satisfactory, both subjectively and objectively. Its efficacy in relieving tension and agitation has been reflected in improved sleep, and insomnia is not as frequent a complaint as heretofore. As a matter of fact, this has resulted in a high degree of patient acceptance, so much so that one must consider the psychological factors that are known to occur in placebo response. On the other hand, valid effects which constitute definite advantages include the lack of any stimulant effect, thus facilitating its use for legitimate medical reasons. In addition, the absence of extrapyramidal symptoms has been confirmed in these patients, as has the low incidence of side effects. Jaundice, skin rash or other allergic manifestations have not been observed, and frequent blood checks have failed to reveal any signs of blood change. Drowsiness has been reported by some and has been controlled through a reduction in dose. Generally, dosage has

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ranged from 75-200 mg. daily, with duration of therapy varying considerably according to period of commitment.

SUMMARY

The phenothiazines exert a therapeutic

activity having great value in penal institutions. Experience has demonstrated that the toleration to thioridazine and its clinical effect make it a drug that is very helpful in the treatment of anxiety in prison inmates.

CONTROLLING THE CHRONICALLY DISTURBED PATIENT WITH MASSIVE PHENOTHIAZINE THERAPY

ROBIE T. CHILDERS, JR., M.D.¹

This report deals with the manner in which the problem of the chronically disturbed patient has been handled on a 50-bed ward that is used for the management and treatment of disturbed, hyperactive, resistive, and combative female patients from other sections of a 1800-bed state hospital.

Chronic schizophrenic patients with infrequent and/or acutely disturbed episodes as well as cyclic manic excitements usually respond to moderately large dosages of tranquilizers (such as 1000 mg. Thorazine) or a short series of ECT. The main problem over the years has been how to deal with the chronically disturbed and combative patient who causes unrest amongst the other patients on the ward. There were 8 patients who fit into this category; six carried a schizophrenic diagnosis, one was a mental defective with psychosis and the other was a convulsive disorder with psychosis. They ranged in age from 26 to 63 (average age 38). Length of hospitalization varied from 1½ years to 13 years (average 7½ years).

All patients were combative and had required seclusion or restraint. Other symptoms included hyperactivity, irritability, destructiveness, hostility, and hallucinations. All except one had had one or more definitive attempts at control with either tranquilizers, ECT, or the combination, with only temporary or insignificant improvement.

On the regimen as indicated in Table 1 all 8 patients showed marked improvement. Hostility and combativeness disappeared or was markedly diminished both

in frequency and intensity; 5 of the 8 patients now participate in ward work and recreation. One patient has improved sufficiently to be placed on a convalescent leave.

The "massive dosages" given these 8 patients have not resulted in drowsiness, dizziness, or disinterest. One displayed a tremor on Prolixin and another developed an oculogyric crisis on chlorpromazine but both were immediately controlled on Cogentin. This low incidence of side effects dramatically contrasts with the usual 40% to 50% incidence reported by others and seen by myself in the treatment of patients with much smaller dosages. For purposes of comparison we have equated the 3 drugs used as follows: 5 mg. Prolixin equals 10 mg. Stelazine equals 250 mg. Thorazine.² The 8 patients described in Table 1 received an average of 1700 mg. Thorazine (or equivalent) daily. Ten patients on this ward undergoing treatment for an acute upset were receiving an equivalent of 1000 mg. Thorazine daily. Twenty-four other chronic problem patients presently on the same ward are being controlled with an average of 600 mg. Thorazine (or equivalent) daily. (There is an incidence of 46% parkinsonisms, akathisia or dyskinesias in this group of 24 patients.)

Medications on this ward are usually given as a liquid concentrate.

SUMMARY

The successful management of an acutely disturbed ward rests in the control of the chronically disturbed and combative pa-

¹ Richmond State Hospital, Richmond, Indiana.

² Prolixin or fluphenazine—Stelazine or trifluoperazine—Thorazine or chlorpromazine.

tients. A regimen utilizing an average of 1700 mg. Thorazine (or equivalent) daily resulted in marked improvement in the behavior and adjustment of 8 "hard core" refractory patients. Multiple attempts by other means had failed to elicit a sus-

tained improvement. An extremely low incidence of side effects was encountered. The question of control of the difficult patient is usually: 1. Which tranquilizer; 2. In what dosage; 3. Over what period of time.

TABLE 1
Treatments Received by Eight Chronically Disturbed Patients

CASE NO.	MAIN SYMPTOMS	TREATMENTS IN PAST WITHOUT SIGNIFICANT IMPROVEMENT	TREATMENT RESPONSIBLE FOR IMPROVEMENT
1.	Combative, loud, profane, and hostile	800 mg. Thorazine for 7 months	Thorazine 1600 mg.
2.	Mute and combative	400 mg. Thorazine and 40 mg. Stelazine for 3 months 800 mg. Thorazine and 30 mg. Stelazine for 3 months 1200 mg. Thorazine and 20 mg. Stelazine for 1 month	800 mg. Thorazine and 15 mg. Prolixin
3.	Hostile, irritable, demanding, and combative	800-1600 mg. Thorazine for 6 months	2000 mg. Thorazine
4.	Disturbed and combative	Series ECT, symptomatic sedation	800 mg. Thorazine
5.	Temperamental combative, and destructive	"Moderate" dosages of Thorazine, Stelazine, and Prolixin, also ECT.	80 mg. Stelazine
6.	Loud, fearful, combative, and hallucinating	1000 mg. Thorazine for 4 months	2200 mg. Thorazine
7.	Uncooperative and combative	1200 mg. Thorazine for 3 months	800 mg. Thorazine and 30 mg. Stelazine
8.	Hostile, uncooperative, and combative	15-40 mg. Stelazine for 5 months also ECT	80 mg. Stelazine

CLINICAL APPRAISAL OF DEPROL

MICHAEL J. KEITH, M.D.¹

I have had extensive experience with Deprol, a proprietary preparation, combining 400 mg. of meprobamate and 1 mg. of Benactyzine. This preparation has been widely promoted as an antidepressant.

With our present interest in the various new antidepressants, it would seem timely to assess the position of Deprol in relation

to the treatment of depressive illnesses. In 2½ years' experience with the use of Deprol, including treatment of at least 150 patients, I have noted no specific antidepressant activity. The only depressive symptoms that it affects are those of anxiety, minor agitation and insomnia.

Deprol is a useful drug in the management of anxiety when some degree of seda-

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tion is required beyond that experienced with small doses of phenobarbital or meprobamate. A very considerable percentage of patients receiving Deprol will complain of drowsiness. Many patients can tolerate only half a tablet q.i.d., rather than one tablet q.i.d. No specific complications have been noted with the administration of Deprol (other than those noted in the administra-

tion of meprobamate), beyond frequent incidence of sleepiness.

In summary, in 2½ years of usage, Deprol has exhibited no specific antidepressant effect. However, it is useful as an ancillary treatment in certain anxiety syndromes, when a greater degree of sedation is required than is afforded by the milder sedatives and ataraxics.

THE PREVENTION AND TREATMENT OF CHEMICAL PARKINSONISM WITH UK-738

SIDNEY COHEN, M.D.¹

Some psychopharmacologists have considered that the therapeutic and extrapyramidal effects of the phenothiazine series were positively correlated (1). The opinion was expressed early in the use of these compounds that the extrapyramidal syndrome (EPS) should be deliberately elicited during the treatment of the chronic psychoses in order to assure full phenothiazination. Now it appears that the antipsychotic and extrapyramidal components are separable; active phenothiazines with a low incidence of the EPS have been studied (2). In our opinion the EPS is a disturbing, undesirable complication of therapy which should be avoided if possible, or promptly treated when it occurs. The chronic schizophrenic has serious and, to him, unexplicable derangements of perception, ideation and self concept. To impose the strange postural and kinetic aberrations of the EPS seems unwarranted. For this reason the prophylactic use of antiparkinsonian agents was instituted here when large amounts of phenothiazines with a known high incidence of the EPS were employed. Fifty chronic psychotic patients who were to be treated with high doses of prochlorperazine-model phenothiazines, were concurrently given 4 mg. of UK-738 (N-ethyl-nor-tropine-benzhydrylether-hydrobomide)² a day. Forty-four of the group manifested no observable signs of the EPS, six (12%) demonstrated either parkinsonian or mild

dyskinetic symptoms which were controlled in all but one by increasing the dosage of UK-738 to 8-24 mg. daily. A single patient required both decrease of the phenothiazine and an increase in the UK-738 to 32 mg. for satisfactory control. The 12% incidence of the EPS may be contrasted with reported figures of 40-60% (3, 4) following the use of large amounts of perphenazine, trifluoperazine or fluphenazine. When mild akinesias such as muscle weakness and pain are included, this figure approaches 100%.

As a rule the antiparkinsonian medication could be decreased to 2 mg. daily or omitted after the first two months of treatment. In 13 patients attempts to discontinue the UK-738 resulted in the appearance of some facet of the EPS, indicating that suppression of these symptoms was actually occurring.

Seventy-six chronic schizophrenics who had not been treated prophylactically developed the EPS during their course of phenothiazine medication. They were given UK-738 as soon as the neuromuscular manifestations of the EPS became apparent. Dosages varied from 4-32 mg. daily. The drug was well tolerated. In patients receiving the higher doses complaints of dryness of the mouth occurred. All but 12 patients lost their parkinsonian symptoms following UK-738 therapy along with reduction of dosage of the phenothiazine. The 12 treatment failures consisted of those who either continued to have overt extrapyramidal symptoms, or were insufficiently improved by the amount of the phenothiazine they could tolerate.

¹ Psychosomatic Service, GM&S Hospital, VA Center, Los Angeles 25, Calif.

² The UK-738 was supplied by Mr. Harry Alt-house of Sandoz Pharmaceuticals.

Eight patients have been taking UK-738 for more than one year, of these 3 receive 32 mg. daily. This group are "Parkers," that is, they readily develop the EPS on all phenothiazines and appear to require continuous suppression. A single dose of certain phenothiazines can induce dyskinetic movements of the neck and face in 1 patient of this group. UK-738 has produced a complete or sufficiently satisfactory remission in all of these patients.

SUMMARY

In the treatment of the long term psychotic patient who will require large amounts of phenothiazines, especially those with a piperazine ring in the side chain,

consideration should be given to prevention of the EPS. UK-738 has satisfactorily suppressed these disturbing symptoms without adding undesirable side effects of its own. It has also proven to be an effective agent in the treatment of manifest chemical parkinsonism.

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A METHOD FOR SERIAL SAMPLING OF BLOOD DURING SLEEP

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CHESTER M. PIERCE, M.D.¹

In order to study biochemical changes occurring in experimental human subjects during unsedated sleep and dreams, a method of withdrawing blood without awakening the subject has been successfully employed at the University of Oklahoma Medical Center during the past year.

Under local anesthesia a number 20-gauge indwelling polyethylene catheter is inserted into the most readily available large superficial vein of the forearm through a 17-gauge needle. The size of the needle obviates the use of smaller wrist and hand veins in most subjects. The catheter is connected to an intravenous extension tube 20 inches in length which is in turn connected to a 3-way petcock taped at bed level to an ordinary intravenous standard; 500 cc. of saline is attached to the petcock through a second intravenous tube. Regulation of the saline drip to approximately 6-10 drops per minute suffices to prevent coagulation in the tubing and yet introduces only 180-200 cc. of fluid in a 7-8 hour period.

After taping the catheter to the arm and

checking the attachments, a small drop of collodion is placed over the venepuncture site. Blood is drawn with a 20 cc. syringe attached to the outlet arm of the petcock. Since the system distal to this petcock contains approximately 4 cc. of saline, this must be withdrawn and discarded before obtaining undiluted blood samples. After obtaining each blood sample it is important to allow saline to flow rapidly for a sufficient time to clear the distal tubing of blood. The rate of flow is then again reduced to 6-10 drops per minute.

Depth of sleep is determined by monitoring an encephalogram tracing throughout the night. Dream onset is shown by deviations of the tracings taken from electrodes glued to the outer canthus of each eye.² Since no sedation is given, obtaining an undisturbed sleep pattern depends upon the system producing a minimum amount of discomfort. The hum of an electric fan is an excellent method for masking incidental noises. Minimal light is obtained by using a rheostat wall switch which controls the light and keeps the room dimly illuminated. These measures permit normal sleep in most cases.

¹ Respectively, Resident in psychiatry; Assistant professor of psychiatry; and Assistant professor of psychiatry, University of Oklahoma School of Medicine, Oklahoma City, Okla.

² Dement, W., and Kleitman, N. : *J. Exp. Psychol.*, 53 : 339, May 1957.

Two difficulties have been found in this procedure. First, a 17-gauge needle demands a very large and stable vein. Therefore, the polyethylene catheter occasionally cannot be employed in subjects with small veins. Second it was found on several occasions that blood could not be withdrawn from the patient prior to sleep, even though the catheter was obviously within the vein as evidenced both by touch and by the free flow of saline. This has been observed even though blood comes easily when the vein is first punctured. In most instances blood again flows readily if the subject is allowed to sleep before the next attempt is made. No clear-cut explanation for this phenomena is offered. Psychological factors, in conjunction with the needling itself, may con-

tribute to a localized venospasm. The fact that blood flows freely after the subject is allowed to relax supports this hypothesis. A change in blood viscosity secondary to anxiety has also been postulated. There have been no untoward after effects or complications of this procedure.

CONCLUSIONS

An indwelling polyethylene tube in a large superficial vein offers a simple, safe, economical technique for obtaining serial blood samples without disturbing a sleeping subject. This permits study of hematological correlates of depth of sleep, diurnal and other periodic changes, and episodes of dreaming.

A CLINICAL EVALUATION OF SKF-6333

RUPERT H. MAY, M.D., THOMAS J. JOYNES, M.D., AND
NORMA D. BYLENGA, A.B.¹

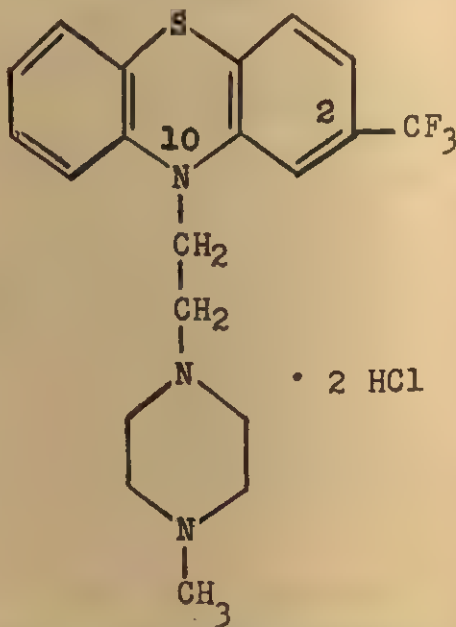
10- [2-(1-methyl-4-piperazinyl)ethyl] -2-trifluoromethyl phenothiazine dihydrochloride² was evaluated as a "tranquilizer" in 17 female psychiatric patients (age: $Mn \pm SE$: 38.5 ± 1.7 years) of the following diagnostic categories: 11 "acute" schizophrenics, 3 manic-depressive psychotics, 3 involutional psychotics, 1 psychoneurotic. Chemically, SKF-6333 is trifluoperazine minus one methyl group in the side chain of position 10. Pharmacological animal experimentation suggested a potency similar to chlorpromazine(1).

The evaluation was "single-blind," since data on human application were not available. Nine of the 17 patients had not responded to other forms of biological therapy during this hospitalization. The indications used were similar to those for chlorpromazine. SKF-6333 was given in a total dosage range of 1,875 to 19,550 mg. ($Mn \pm SE$: $7,960 \pm 1,523$ mg.) over 16 to 129 days (52 ± 8 days), with a highest daily dosage of

15-600 mg. (257 ± 35 mg.).

Thirteen of the 17 patients improved

FIGURE 1



10- [2-(1-methyl-4-piperazinyl)ethyl] -2-trifluoromethyl
phenothiazine dihydrochloride
SKF-6333

¹ From the Cleveland Psychiatric Institute and Hospital, Cleveland 9, Ohio.

² SKF-6333: The authors acknowledge with thanks financial support from Smith Kline & French Laboratories.

sufficiently for release, 4 needed additional ECT. Mental status ratings exhibited a moderate anti-psychotic effect, as seen in decrease of delusions, hallucinations, and hostility. Affect showed changes toward "normalization," by increase when formerly depressed and by decrease when exaggerated earlier. A definite "euphoric" effect was noted, especially in smaller dosages. Stimulation of activity and interest resembled trifluoperazine effects. The improvement was insufficient in very disturbed schizophrenics.

Twelve of the 17 patients showed various degrees of psychomotor restlessness as a side effect, all on a dosage of above 200 mg./day. There were 4 instances of allergic skin manifestations (without accompanying eosinophilia); one other patient not included here, showed a strong skin eruption necessitating discontinuation of the compound after 4 days.

The only changes approaching significance in the physiological and laboratory measurements were: a decrease in WBC

($p < .1$), in eosinophils ($p < .1$), in monocytes ($p < .1$), and, significantly, BUN ($p < .01$). Five individuals exhibited pathological changes in the EKG, not accompanied by clinical symptoms; all changes reversed spontaneously or upon discontinuation of the drug. The EEG's exhibited a tendency to "low voltage fast activity," and 6 EEG's showed changes in the direction of a convulsive disorder. A modification of the Forrest method (2) permitted testing of urinary excretion of this compound and/or its metabolites, but was reliable only in dosage above 300 mg./day.

SKF-6333 is a fairly powerful psychotropic agent, but unfortunately with a higher rate of side effects than comparable phenothiazines.

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FACTORS DETERMINING "RUM FITS"

JOHN W. RHINEHART, M.D.¹

"Rum Fits" are commonly understood to be epileptiform seizures occurring in persons chronically addicted to alcohol and presumably related in some way to the addictive state. There have been reports suggesting that the convulsive state is related to withdrawal phenomena (1, 2, 3, 4), but the exact relationship or causal sequence remains unexplained. The incidence is often reported to be around 10% and in a review of 200 consecutive past admissions for alcoholism to Fairfield State Hospital it was determined to be exactly this figure.

In order to investigate the etiology of "Rum Fits,"² 16 bio-socio-psychiatric factors

in alcoholics admitted to a state mental hospital were studied. These factors were: age; sex; race; handedness; ethnic background of patient and parents; physique; presence or absence of acidosis; liver dysfunction; skull x-rays; history of head trauma; length of alcoholism; number of previous withdrawal reactions; diagnosis; and electroencephalogram. The sample consisted of 80 consecutive admissions with a diagnosis of an acute or chronic brain syndrome associated with alcohol addiction, sociopathic personality disturbance, addiction alcoholism, and other diagnoses with secondary alcoholism. Ten patients were excluded because of such factors as chronic metabolic disease, proven pre-alcoholic epilepsy, lobotomy, other addictions, chronic infectious illnesses, or premature discharge from the hospital preventing adequate work-up. IBM cards were utilized in compiling and analyzing

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² The advice and encouragement of Dr. D. X. Freedman, Department of Psychiatry, Yale University School of Medicine; and Dr. Jane E. Oltman, Clinical Director, Fairfield State Hospital is gratefully acknowledged.

ing the data. Of the 70 cases, 51 patients fell into a "non-convulsive group" and 19 into a "convulsive group." Fifty of the patients were in the 40-59 year age group; 66 were men, 4 women; 65 white, 5 negro; 51 patients had leptosomic-athletic physiques; 38 had evidence of acidosis (CO_2 alteration below 25 meq/L and positive urine acetone test); 5 had evidence of liver dysfunction (cephalin flocculation in excess of 2+ in 48 h, thymol turbidity in excess of 4 units and prothrombin time in excess of 2 sec. from normal); 56 patients had over a 10-year history of alcoholism; 4 patients had significant abnormalities of skull x-ray; 20 had a history of previous head trauma; 45 had 0-1 previous acute brain syndromes and 25 had more than one. Eleven patients had non-specific EEG abnormalities; 36 had acute brain syndromes (delirium tremens, acute hallucinosis, or pathologic intoxication); 65 were right handed.

The seizures in the convulsive group were consistently generalized grand-mal in type except for one patient who experienced right-sided Jacksonian seizures; they generally occurred within 0-48 hours after being jailed or hospitalized. Each patient had only one seizure except for 2 patients with 3 and 3 plus consecutive seizures. Eight patients experienced convulsions without the development of delirium tremens; 11 patients had associated delirium tremens and in 6 of these it appeared to follow the convulsive seizure. In 4 the temporal relationships were impossible to determine, and in 1 it occurred in the early phases of the delirium.

In comparing the data in the convulsive group against those in the non-convulsive group, there were no significant or preponderant findings. Neither physiologic imbalance nor the sociopsychiatric factors singly or in combination could be seen as related to the occurrence of seizures. The most apparent difference was in the greater incidence of abnormal EEG in the convulsive group (6 in the 51 non-convulsives and 5 in the 19 convulsives) but this finding was not statistically significant. In addition, the 6 patients with abnormal EEGs in the non-convulsive group showed no striking difference in the other factors from the 5 with abnormal EEGs who had

convulsions.

Though it is often stated that "Rum Fits" commonly initiate or at least are a part of the withdrawal reaction from alcohol, the exact reason why some chronic alcoholics are vulnerable to their occurrence remains obscure. We can only guess that there is some multi-faceted interaction of structural and physiologic events that lies beyond the rather gross and obvious characteristics that were investigated here.

More specific, detailed studies appear to be necessary and our experience reflects the need for a controlled research situation where all variables (particularly the sequence of physiologic events during both active addiction and withdrawal) can be as carefully examined as possible.

CONCLUSIONS

1. A 10% recorded incidence for "Rum Fits" in an alcoholic population was determined by review of the charts of 200 consecutive patients admitted to a state mental hospital. This is in essential agreement with other published data, though it is felt that if patients are more closely studied, the incidence is somewhat greater, as seen in the sample for the second part of the study.

2. In a preliminary investigation of 16 bio-socio-psychiatric factors, it was found that none of them singly or in combination, significantly differentiated those alcoholic patients who had "Rum Fits" from those who did not. A more controlled research situation was seen to be necessary in order to more closely study the variables of the addictive and withdrawal phases of alcoholism.

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A CONTROLLED STUDY OF HALOPERIDOL : THE EFFECTS OF SMALL DOSAGES

ARTHUR S. SAMUELS, M.D.¹

Haloperidol,² which is a 4'-fluoro-4-1-(4-hydroxy-4-(4'-chloro)-phenylpiperidino)-butyrophenone, has recently been introduced in Europe as a promising tranquilizing agent. Its interest to us lies in the fact that it is chemically unrelated to any medication used in this country but is reported to have both therapeutic effects and side effects similar to those produced by the phenothiazines. Previous reports (1, 2) have noted the severity of extrapyramidal and other side effects with higher dosages. The purpose of this study was to ascertain the clinical effectiveness of this drug at dosages below those at which troublesome side effects are usually encountered.

Employing a carefully controlled double blind procedure, we administered the medication to 26 inpatients (on the Tulane Psychiatric Service at the Charity Hospital of Louisiana in New Orleans). This report is on the 20 of those who fulfilled our control group requirements. This group includes 10 schizophrenics (5 acute paranoids, 3 acute undifferentiated, 1 chronic paranoid, and 1 chronic simple type), 1 acute paranoid reaction, 3 psychotic depressive reactions, 1 anxiety hysteria, and 2 patients who demonstrated mixed organic-schizophrenic symptoms. There were 12 females and 8 males, ranging in age from 13 to 55 years. Six of the patients had had previous psychotic episodes. The nature of the precipitating factors for the present psychosis was severe in 1 case, moderate in 5 cases, and mild or unknown in the other cases. The overall duration of treatment varied from 2 weeks to 3 months with the controlled study including 2 weeks on drug and 2 weeks on placebo for each patient. Dosage was by mouth, usually 1 mg. b.i.d. the first week and 2 mg. b.i.d. the second week. Mental status evaluations, employing a scale described elsewhere (3) were performed weekly by the author.

RESULTS

Estimating overall improvement following 2 weeks of therapy with R.1625, 8 patients showed improvement with their symptoms subsiding completely; 8 showed definite improvement but were still seeking further relief from their symptoms; 2 showed only slight improvement with benefits not great enough to warrant further use of the drug; and 2 showed no change. These results were slightly better than those obtained by a matched control group receiving placebo only, but the difference between these two groups was not statistically significant. On the other hand, using the patients as their own controls, an improvement which was statistically significant at the 1% level was found when the patient's response to the drug was compared with the same patient's response to the placebo.

Changes in the severity of the following symptoms were recorded on a 4-point scale: disorder of affect, association defect, depersonalization, depression, anxiety, delusions, hallucinations, and social withdrawal. In only two of these, anxiety and social withdrawal, did the improvement show up as statistically significant (at the 5% level of significance) as compared with the improvement of the group on placebo. In 2 cases of severe paranoid schizophrenia dramatic improvement was seen, with marked reduction or disappearance of symptoms within 24 hours after the patients were switched from placebo to drug.

Improvement, when it occurred, became evident 24-48 hours after drug therapy was begun. Three patients showed definitely more improvement when they were receiving 2 mg. b.i.d. than on 1 mg. b.i.d. Higher dosages for longer periods were tried with a few patients, but no increase in benefits was noted.

Five of the patients in our group reported overwhelming sleepiness while taking 2 mg. b.i.d. They preferred to stay in bed and sleep most of the day, but could be easily

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² Supplied as R1625 by the G. D. Searle and Co.

aroused. This side effect was much less severe on 1 mg. b.i.d., and actually caused discomfort in only 2 cases at the lower dosage. There were no extrapyramidal side effects at the dosage levels employed, aside from a twitching of the masseter muscles in one case. No significant changes were noted in blood pressure, pulse, weight, temperature, CBC, liver profile or urinalysis.

SUMMARY

The clinical effects of Haloperidol in dosages small enough to avoid troublesome side effects were observed in a small, care-

fully controlled study. The overall beneficial effects noted were inconclusive statistically as compared with placebo, although there was a significant reduction of anxiety on the drug. More extensive evaluation of this compound is indicated.

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CLINICAL TRIAL WITH CYCLOPENTIMINE

L. SCHWARZ, M.D., T. BAN, M.D., AND R. SMITH, M.D.¹

Published reports on cyclopentimine² have described it as "a well tolerated anti-anxiety, antipsychosis agent"(1). The only side effect reported in a few patients has been nausea, which subsided promptly with reduction of the dose or when antihistaminics were added. The patients on the drug displayed an unusual willingness and interest in receiving the medication, and expressed a subjective feeling of well-being(2).

Based on these findings, we carried out a clinical trial of the drug with 30 hospitalized psychiatric patients. A limited response to previous treatment and absence of physical pathology were the only criteria of selection.

The diagnostic distribution of our subjects was similar to that reported by the other authors and we administered the doses in the dosage range suggested by them and by the manufacturer. The following table gives the diagnostic distribution of our sample group:

Schizophrenic	27
Psychotic depressive reaction	1
Involuntary psychosis, paranoid	1
Mental defective with psychosis	1

Mean age was 50 years, with a range of 21-63. Their hospitalization ranged from 2-26 years, giving an average of 20 years.

Preceding the trial period the patients' previous medication had been discontinued for 1-4 weeks. The subjects were put simultaneously on 1000 mg. of Cyclopentimine in 4 divided doses. This was increased to 2000 mg. in the second week and 3000 mg. in the third week. It had been planned to maintain a dosage of 3000 mg. q.i.d. administration until the end of the 10th week.

RESULTS

Within one week 19.8% of the patients were vomiting, 16.5% were nauseated and 70% had lost 1 to 5 lbs. in weight. Nausea and vomiting started immediately after the first dose of the drug and could not be suppressed by an antihistaminic agent (Diparalene).

At the beginning of the second week all the patients were placed on preventive Diparalene. However the percentage of the vomiting patients increased to 52.8% by the end of the week, and to 62.7% by the end of the third week, and an additional 13.2% were nauseated.

In combination with nausea and vomiting, insomnia occurred. In the first week 11% of the patients slept only 6 hours. In the second week this increased to 28% and in the

¹ Verdun Protestant Hospital, Montreal, Que.

² The cyclopentimine used in this experiment was supplied through the courtesy of the Abbott Laboratories, under the trade name of Cypentil.

third week to 34%. With such severe side effects the patients did not feel well and were reluctant to take the medication.

Other side effects of lesser importance were: extrapyramidal symptoms in 3 subjects, headache in 3 and dermatitis in 2.

Because more than 75% developed side effects and because of the severity of the nausea, vomiting, weight loss and insomnia, the drug trial was discontinued after the third week.

Psychiatric evaluation showed that 8 patients had improved, 20 remained unchanged and 2 had become worse.

One of the improved subjects was well enough to be discharged. This undifferentiated schizophrenic patient had presented paranoid trends with depressive mood changes (at the beginning of the drug trial).

In all 8 improved patients the beneficial effects were manifested in decreased aggressiveness, and in mild euphoria.

SUMMARY

A clinical trial was conducted on 30 hospitalized female patients with cyclopentimine. Decreasing aggressiveness and euphoria were observed as beneficial effects in 8 patients.

However, because of the uncontrollable side effects of severe nausea, vomiting, loss of weight and insomnia, as well as extrapyramidal symptoms, headache and allergic dermatitis, the trial had to be discontinued prematurely.

It seems that these severe side effects at the present time overshadow the compound's potential therapeutic value.

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A UNIQUE MONOAMINE OXIDASE INHIBITOR FOR DEPRESSION

LUIGI BUCCI, M.D., AND JOHN C. SAUNDERS, M.D.¹

N-Benzyl-N-methyl-2-propynylamine (Mo-911)² is a new potent monoamine oxidase inhibitor both *in vitro* and *in vivo*. Authoritative opinion is sufficient for many writers to continue to challenge the role of the monoamine oxidase system in diseases of affect. Studies of iproniazid indicate that its irreversible inhibition may be the result of dehydrogenation at the active site of the enzyme. Preparation MO-911 with its triple bond provides an active site of formation for the enzyme complex. It also differs chemically from the previously tested preparations in that it does not contain a hydrazine or a carbonyl radical. Both of these groups introduce high activity sites in the molecule and are known to react with enzyme systems other than monoamine oxidase, specifically, many of the pyridoxal

enzymes. These radicals possibly account, in part, for the untoward effects of these drugs in man. This study adds confirmatory data to support a hypothesis of one of us that monoamine oxidase has an essential role in depression and other diseases of affect(1).

This preliminary report is on 25 female patients from an admission service. They were selected for their primary signs and symptoms (phenomenologically); however 3 patients were classified as depressives, 1 manic-depressive, and the remaining 21 were schizophrenics (3 with a history of alcoholism) characterized by autism, anergy, flatness of affect and depression. The secondary symptoms, delusions and hallucinations, of schizophrenia could not be elicited but contact with reality was lacking. Their ages ranged from 20 to 61 years; however, 21 were in their 30's. Three patients were hospitalized for over 3 years, 5 patients had more than one admission and had been ill for 2 to 3 years and the re-

¹ Research Facility, Rockland State Hospital, Orangeburg, N. Y.

² Preparation MO-911 (N-benzyl-N-methyl-2-propynylamine) was supplied by Abbott Laboratories, North Chicago, Ill.

maining 17 were first admissions. Previous psychopharmacological therapy had been given to 18 patients, 1 had received imipramine and 17 had received phenothiazines. Response was far from satisfactory, therefore these patients were given MO-911 for alleviation of the primary symptoms of their psychoses.

Patients were started on 25 mg. t.i.d. of MO-911 which was found to be effective in 22 of 25 patients. In the 2 who failed to respond, the dose was increased to 50 mg. t.i.d. without further clinical effect. Amelioration of depression is usually obvious within the third week of therapy. Patients become more alert and responsive, develop interest in personal hygiene, initiate activities on the ward and become interested and better integrated in their environment. Analysis of the 25 patients receiving MO-911 demonstrates that it was clinically effective as 11 have been released, 4 are improving and will probably be discharged in the near future. There was no change in 2 and a paranoid schizophrenic became worse (agitated, confused and incoherent). The remaining schizophrenics are free of their autism and depression and now we have added a tranquilizer in order to alleviate their secondary symptoms. The clinical efficacy of MO-911 as an antidepressive agent

is highly effective in depression and in schizophrenia where autism, flatness of affect and anergy characterize the patient.

This monoamine oxidase inhibitor did not produce delusions or hallucinations during this study as is occasionally observed with the hydrazines or imipramine. There was no postural hypotension, edema, ataxia, color blindness, jaundice, neuritis or constipation. One patient had an insatiable thirst and laboratory studies revealed she was not a diabetic. Clinical laboratory studies of peripheral blood, urine and liver function were always within the normal range during this 8-month study.

In conclusion, our preliminary studies indicate that MO-911, which represents a new chemical class of monoamine oxidase inhibitors, is therapeutically one of the most effective antidepressive agents available. The apparent absence of toxicity and side effects are probably due to lack of the hydrazine and carbonyl moieties on the MO-911 molecule. This monoamine oxidase inhibitor fulfills the requirements of a practical antidepressive drug in man and warrants widespread clinical usage.

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THE USE OF STELAZINE AND PARNATE IN CHRONIC, WITHDRAWN PATIENTS

ALFRED H. VOGT, M.D.¹

Previous reports(1, 2) have evaluated the usefulness of Stelazine and Parnate² in chronic, withdrawn, mental patients. This study was designed to further evaluate these drugs with the same type of patient but more particularly to use relatively high dosage of Stelazine in connection with manufacture's recommended dosages of Parnate. Fifty chronic patients were selected from a white male population. These patients had all previously been extensively

treated with tranquilizers and/or E.C.T. Most had been ill for 5 years or longer. The overall age was 40 years. Diagnostically they consisted of:

TABLE 1

Schizophrenia, all types	39
Manic-depressive psychosis	1
Mental defective with psychotic reaction	3
Organic brain syndromes, all types	4
Severe personality disorder	3
	50

¹ Houston State Psychiatric Institute, Texas Medical Center, Houston, Texas.

² Parnate was provided by Smith Kline and French Labs.

Despite the variations in diagnosis, all showed primary and secondary symptoms

of the schizophrenias. All were socially and symptomatically seriously ill.

These patients were initially removed from all medications for 2 weeks, during which they were physically examined and given an extensive mental status. Base line laboratory data were obtained. After 2 weeks of observation Stelazine was started on all patients. The starting dosage was rapidly elevated to 20 mgs. b.i.d.

Another evaluation period of 2 weeks was carried out during which time the dosage of Stelazine was adjusted to an individualized maximum amount. Side effects were noted: 18 patients developed extrapyramidal symptoms. In each case Artane controlled these side effects in conjunction with a reduction in the dosage of Stelazine. After 2 weeks on Stelazine, Parnate and placebo were given to 2 groups on a double blind basis. The study period was 3 months. During this time observations were made to determine social performance and symptomatic improvement; the ward programs were held as constant as possible.

RESULTS

All patients were improved after the first 2 weeks of treatment with Stelazine in both social and symptomatic areas. An analysis

TABLE 2
Stelazine-Parnate Group

SOCIAL AND SYMPTOMATIC		PLACED ON LEAVE	
Much improved	6	5	(1 return)
Improved	13		
No change	5		

Stelazine-Placebo Group

SOCIAL AND SYMPTOMATIC		PLACED ON LEAVE	
Much improved	8	7	(1 return)
Improved	10		
No change	8		

of the results at the end of the study are shown in Table 2.

None of these 50 patients suffered hypotension, liver dysfunction, or dyscrasias, once an optimal individualized Stelazine dosage was obtained. Of the 18 patients receiving Artane 11 were in the Parnate group, 8 developed extrapyramidal signs after Parnate was started.

DISCUSSION

It seems that Stelazine is the more active and significant agent accounting for the improvement of these patients. It also seemed that when the Parnate was added (30 mg./day) it amplified the extrapyramidal side effects of the Stelazine in certain cases. In general, symptomatic improvement was greater than improved social performance whether on placebo or Parnate. It was curious to note that when the Parnate ran out many patients complained about not receiving their medication. However, this is hard to evaluate because there was some enthusiasm regarding the idea of being in a "project." All patients, whether on Parnate or placebo, seemed more willing to work and carry on ward life. This attitude has persisted despite the ending of the "project." The overall conclusion is that Stelazine and Parnate combined may give a slight edge in the activation of a chronic, apathetic, withdrawn patient over Stelazine alone.

The rarity of serious side effect (except the extrapyramidal signs) was encouraging regarding the safety of higher dosage of Stelazine.

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CASE REPORTS

CIRCULAR MANIC-DEPRESSIVE REACTION MODIFIED BY "PROPHYLACTIC ELECTROSHOCK"

DONALD W. HASTINGS, M.D.¹

Manic-depressive reaction of the circular type presents one of the most difficult problems in psychiatry both to patient and physician. This case is deemed of reportable interest because it represents a reasonably successful control of this serious illness by the "prophylactic electroshock" (EST) method described by Geoghegan and Stevenson.²

The patient is a professional man of 56, married, three children. He was an only child. His father also had manic-depressive reaction and has been under my care for two depressed episodes and on one occasion both father and son were patients simultaneously on the same ward of this hospital.

The patient's normal personality is best described as obsessive-compulsive. He is meticulous, has a place for everything and everything in its place, has rigid control over feelings of anger but "boils inside," pays a great deal of attention to money, *etc.*

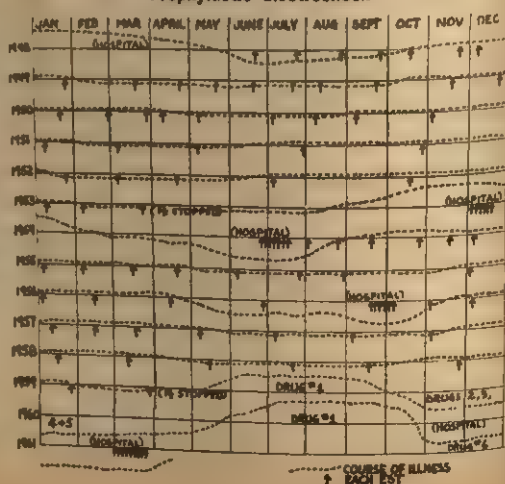
His first attack was a depression which occurred in 1929 (age 24). This lasted about 4 months. The next attack came 10 years later (1939, age 34) and was another depression. He was hospitalized elsewhere for this attack and during its 6-month duration he received 13 typhoid shots, 7 metrazol treatments, and a course of insulin shock therapy (depth and duration unknown). He was depressed again in 1940 (age 35) and made a suicide attempt with barbiturates. In 1944 (age 39) he was hospitalized again for depression with no known shock therapy. Immediately after the conclusion of this attack, again about 6 months, he went into a hypomanic episode which required hospitalization and lasted about 8 months. He had nine EST treatments at this time. This marked the onset of the definite circular form of the disease and since that time he has never been completely free of illness as will become clear. The depressed attacks have

averaged 6 months, the elations about 8 months. An interesting feature of this man's cycling has been the extremely short period between attacks. Never more than a day or two, it has been at times a matter of minutes. On one occasion he reported passing from 8 months of elation into what turned out to be 6 months of depression while eating dessert one Thanksgiving Day.

I saw him first (April, 1946) at the end of a hypomanic attack. Between that date and May, 1948, I saw him through continuous illness of one phase or another, and he required hospitalization during the worst of two hypomanic and one depressed attacks. During these hospitalizations he received a total of 29 ESTs.

At the APA meeting of May, 1948, Doctors Geoghegan and Stevenson reported on their experiences with "prophylactic EST". The patient was in the hospital at this time recovering from a hypomanic attack. I discussed this treatment with him on my return and he elected to try it. For the next 5 years (1948-1953) he received EST on an outpatient basis at approximately monthly intervals although it was closer to 8-week intervals for the final years (see chart). During this 5-year period he continued to cycle as before, but the amplitude

Chart shows relation between course of illness and "Prophylactic Electroshock"



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² Geoghegan, J. J.; and Stevenson, G. H.: *Am. J. Psychiat.*, 105: 494, Jan. 1949.

of the swings was markedly reduced, to the point where one would not have detected the pattern readily unless the patient had factually reported how he felt. At no time during the years 1948-1953 of "prophylactic EST" did he require hospitalization, and he continued throughout this period in an active and successful professional life. It is interesting to note that this man carried an extreme apprehension of convulsive therapy dating back to his metrazol experiences (1939). This apprehension mounted with each succeeding EST during these years until about 1952 it was deemed prudent to treat him in the hospital operating room under general pentobarbital anaesthesia. This practice has continued to date. He feels slightly less anxious under these circumstances although still has fear bordering on panic for 24-48 hours before each treatment.

In April, 1953, after 5 years of "prophylactic EST" with the results stated, both the patient and I raised the question of how long we should continue. He had had 39 ESTs in this series, not counting a total of 7 metrazol, 38 EST, and a course of insulin shock in the years prior to 1948. Because there were no particular guide lines to follow and after correspondence with Dr. Stevenson, it seemed prudent to let this highly intelligent professional man make his own decision, since by this time he was in truth an authority on manic-depressive disease and its treatment. He elected to stop and see what happened.

In October, 1953, it was necessary to hospitalize him again for a severe hypomanic attack which had begun to be crippling about 6 weeks before. He was treated with an EST series (6 treatments in 11 days) and went into remission. We did not re-start the prophylactic EST subsequent to this attack largely because of his severe anxiety about the treatments and because I was interested in seeing if the old circular pattern was still in force. It was. By March, 1954, he was seriously depressed, had to be rehospitalized in mid-June, and received a series of 7 ESTs which produced remission. With these two hospital experiences in mind, we both saw there was no alternative to starting the routine again and began the next 5-year EST series on August 1, 1954. Again the amplitude of the swings was markedly reduced, he continued to practice his profession, and all in all was leading an active useful life with very little interference from the basic illness.

In 1956 an interesting phenomenon occurred which represents the only period of failure of the method. By late June, 1956, he became quite depressed in spite of the prophylactic

EST. (Examination of the chart indicates that ESTs were spaced quite far apart before this attack.) In September, 1956, he was readmitted to the hospital, had 6 ESTs, went into remission, and the prophylactic EST was continued, again with successful outcome, until April, 1959 (a total of 54 more ESTs since stopping the first 5-year series). At this time we again elected to stop. The main reason was that there might now exist the possibility of chemical control of both the elations and depressions. Neither of us by this time had any doubts that the illness would reassert itself in its previous force on stopping the prophylactic EST; rather, could we control it with the newer drugs now available? This proved in part to be the case in the hypomanic episode which started soon after. An average of 800 mg. per day of thioridazine (Mellaril, Sandoz), drug number 1 on the chart, cut down the hypomanic intensity so that he was able to stay at home although it was touch and go, and there were several occasions when his wife felt he would have been better protected in the hospital. The patient felt rather dulled by the drug. He cycled into depression in mid-August of 1959, and then began a trial of the new anti-depressant agents.

Between September, 1959 and April, 1960, four of the common agents then available were tried for approximately 4 weeks each: iproniazid (Marsilid, Roche), phenylethylhydrazine (Nardil, Warner-Chilcott), nialamide (Niamid, Pfizer), and imipramine (Tofranil, Giegy), drugs 2, 3, 4, and 5 on chart. None of these altered his depression in any noticeable way. He continued to work sporadically during this time although on a reduced schedule and with frequent days away from the office. By late May, 1960, the depression had passed and he was again hypomanic, and again he rode out this attack at home with thioridazine alteration. The hypomanic phase terminated in November, 1960, and was abruptly replaced by a retarded depression of such severity that he required hospitalization. He was at this point started on a trifluoperazine-tranlylcypromine combination (Parstellin, SKF), drug number 6 on chart, which we were using experimentally and the dosage was raised to 9 mg. and 90 mg. of each respectively. After about 3 weeks on these drugs the retardation seemed to lift somewhat, and he felt enough improved to return home. However, in retrospect the improvement was probably largely due to the sanctuary of the hospital than to the drugs because shortly after his discharge he reported that he was not at all well. Still continuing on these drugs, he desperately tried to push his

way through the depression at home, but by the middle of February, 1961, it was apparent that he could not continue and he was readmitted on February 26, 1961, in a severely retarded depression. Stopping these drugs (No. 6) at this point did not seem to alter the illness in either direction. He received 9 ESTs and was discharged much improved on March 27, 1961.

The patient has elected to start another 5 years of prophylactic EST feeling in retrospect that the only relatively "well" years he has had since 1943 were the periods of 1948-1953 and 1954-1959. He feels that the various anti-depressant agents did nothing in his particular case and that while the chemical alteration of the hypomanic phases was useful, it was not as satisfactory as the prophylactic EST alteration.

To date this man, now 56 years of age, has had 147 chemically or electrically induced convulsions spread over a 20-year period. He has had the usual temporary memory deficit after each closely spaced series of EST but has had little trouble with memory disturbance subsequent to each of the ESTs spread at the monthly or greater intervals (1948-1953 and 1954-1959). He has had no instance of convulsions or convulsive equivalents during this period (except those medically induced) nor does he have any neurological evidence of central nervous system abnormality. His general physical status and laboratory studies have remained within normal limits.

COMMENT

In this particular patient with circular manic-depressive illness, two 5-year series of prophylactic EST have been quite effective in controlling the amplitude of manic and depressive phases. Stopping the treatment at the end of the first and second 5-

year series saw the illness reestablish itself with its previous severity within a few months. In spite of the amount of convulsive therapy this patient has had, there is no clinical evidence of brain damage. This amount of convulsive therapy has done nothing to alter the basic manic-depressive process since it quickly reestablishes itself once treatment has been stopped. Five "anti-depressive" drugs were ineffective in altering the course of his depressive phases. Thioridazine was helpful in controlling the hypomanic phase.

This patient is unique in a number of respects but in one above all others, *i.e.*, he has had the courage to follow through with a long term treatment program when each EST produced fear bordering on panic. My experience with prophylactic EST in similar cases has been that most patients are unable to follow through with this long a regimen because of the fear of treatments which develops. Although we routinely use pentobarbital anaesthesia-anectine modified EST in which the only unpleasantness for the patient is the needle stick for the anaesthetic, this has not seemed to reduce patients' growing fears of treatments to any extent. Almost all patients report that so much fear is illogical, that they know they are in good hands, *etc.*, but the fear persists. It is probably the unusual person who will come to the hospital each month in spite of such fear, especially when he feels quite well. The power of rationalization, to regard the illness as a thing of the past, is too strong. If medals were awarded for this sort of courage, the patient described would qualify for one with four clusters.

ACUTE INTERCURRENT PSYCHOSIS DURING THE COURSE OF FAMILIAL PERIODIC PARALYSIS¹

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The patient to be described was brought to the attention of the psychiatric consult-

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²Now at Hillside Hospital, Glen Oaks, New York.

ant because of the sudden onset of grossly psychotic behavior during the course of a long hospitalization for research purposes. The literature on familial periodic paralysis has revealed no other such cases. Aird(1) states that no clinical psychiatric changes can be discerned, and Straus(5) cites the

good social adjustment of the patients. Both imply that the patients do not encounter emotional difficulties, and appear to attribute this fact to the absence of cerebral pathology. Shy(4) also maintains that psychiatric symptomatology must be considered a complication of exogenous etiology during the disease, and not a primary manifestation. Two cases of mental deficiency in children have been reported, however. Couston's(2) case was that of a child believed to have familial periodic paralysis as well as seizures, but without a family history of paralytic phenomena. The only suggestive familial symptoms were of migraine headaches in the boy's mother and paternal grandmother. Another case reported by Prader and Zellweger(3) was a 7-year-old boy with a dystrophic adiposogenital syndrome. The authors believed his primary lesion to be an adrenal cortical tumor or a hypophyseal disturbance. This boy did not have the familial form of periodic paralysis, but another potassium-losing lesion which produced periodic paralysis. Shy(4) was of the opinion that he probably had primary aldosteronism.

The following case is that of a patient who suffered from a psychotic episode during the course of familial periodic paralysis, and who also had chronic emotional difficulties related both to his organic illness and to his personality structure. This report will deal only with the patient's acute psychotic episode.

Chief Complaint: The patient was a 28-year-old, Caucasian Protestant laborer, of native birth, who absented himself suddenly from the hospital, without informing the clinical personnel. He was returned to the nursing unit by ambulance from a hospital in a nearby city, and when interviewed by his physician, was unable to recall having been on the unit previously, called himself by another name, was experiencing auditory hallucinations, and appeared generally confused. Emergency psychiatric consultation was then requested.

Presenting Illness: Interviews with the nursing personnel and with the patient's physician revealed that 5 days prior to his elopement, he had lost his position as timekeeper for a firm in the neighborhood because of a past criminal record. The patient had become attached to his position and to his fellow workers, and became noticeably depressed when

he lost the job. The next day, he solicited a ride on a passing truck to his home, which was about 100 miles from the hospital. He visited his family and returned the next day in the same manner. On the following day, he left the hospital without permission, with the intent of going to a nearby city to repay a debt. Upon encountering some old acquaintances, the patient began a bout of prolonged alcohol ingestion and was discovered by the police, wandering the streets and hallucinating. The patient was taken to another hospital and then returned to the nursing unit by ambulance.

Past Personal History: The patient's past history revealed that he had first become ill at 4 years, and felt deprived because he could not participate in ordinary activities. He was in the Armed Forces for a few months until his illness was discovered, and then given a medical discharge. He was also treated with penicillin for a positive blood serology while in the Armed Forces. On one occasion, he was convicted of stealing an automobile and was placed on parole during the course of his hospitalization.

Psychological evaluation in prison had been done, and the diagnosis of sociopathic personality disorder had been made. A prison report described the patient as seclusive, and implied that he used his illness as an excuse for lack of success. On one other occasion, while in the hospital, the patient had disappeared overnight and returned suddenly. He had gone to the same nearby city impulsively. The episodes of automobile stealing were later described by the patient as essentially impulsive acts.

The patient had done a good deal of traveling about the country, had not finished high school, and worked at odd jobs for varying periods of time, never for more than 2½ years.

Family History: The family history was meager. The patient was the fifth child in a family of seven, with three brothers and three sisters. One brother, one sister, and his father also suffered from familial periodic paralysis.

The patient's father was interviewed by one of the ward physicians, who described the father, an electrician, as a short, weak and overbearing man. The physician felt that the patient's difficulties could be understood in terms of the father's emotional aloofness and authoritarian manner.

Course: At the initial interview, the patient was acutely agitated, was pacing his room, and stated that he had to walk to St. Louis. He called himself by another name, R., and said that if he could only walk to St. Louis,

everything would be all right. He was having auditory hallucinations, was disoriented for time, place and person, and did not recognize any of the nurses or physicians, whom he had known for 14 months. There was no recognition of the possibility that his behavior or feelings were unusual. He felt that he had to obey the voice he heard telling him to walk to St. Louis.

Blood was drawn to evaluate bromide and barbiturate levels, which were normal. Thyrotoxic crisis was excluded by a normal protein-bound iodine value, determined from a recently drawn blood sample. The basal metabolic rate and electrolytes were also of normal value. Blood serology was negative.

Heavy doses of chlorpromazine were instituted and the patient was seen daily by the consulting psychiatrist for the next month. The nursing staff was carefully instructed in the care of the patient, an attendant was with him at all times, and occupational therapy was instituted.

Within one week, the patient remembered his name and began recognizing ward personnel. He still heard voices, and maintained that the voice of his conscience was speaking to him. He was noticeably depressed, and wanted to leave the hospital. R. was the name of a deceased friend whom he had last seen in St. Louis, together with a deceased girl friend whom he felt he wanted to see once more. The patient also began remembering the deaths of some people who had been important to him in recent years.

Psychological testing was done during the following week.³ The psychologist's summary was: "The tests show S, with an average vocabulary, to be at the upper end of the 'normal' range (I. Q. 108). Had he not been so heavily sedated during the initial session, he might well have tested slightly higher, classifying as 'bright normal.' The drawing he produced is more like those done by organics than by schizophrenics. It suggests his rejection of his paralyzed legs and his virility strivings. The Rorschach is very impoverished and stereotyped, again more organic than schizophrenic, and indicative of profound emotional repression. The TAT stories reflect some aspects of his upbringing, particularly the element of parental domination, no doubt enhanced by his infirmity, from both of which he seeks escape. Unfortunately, his escape fantasies lead him into alcoholism and into aggressive anti-social behavior. While it is true that he has recently

had a dissociative episode and been hallucinated following a drinking spree, I find no evidence in the tests of schizophrenic thinking. There is probably mild, underlying organic pathology but the main problem from the personality standpoint is his psychopathic behavior and his psychopathy I would consider secondary to his illness, not primary."

Other findings included a "repression of affective life" on the Rorschach test, and several TAT stories with the theme of loss and subsequent grief.

The patient improved during his final month in the hospital. He continued to be depressed, but stopped hallucinating and became completely oriented. The dosage of chlorpromazine was gradually decreased. He was discharged to his family and arrangements were made for him to have psychotherapy in his home community. Several months later, he was again arrested for stealing an automobile.

DISCUSSION

Some of this patient's difficulties appear to bear a direct relation to his organic disease process. His wish to walk to St. Louis appears to be in keeping with the fact that exercise early in the course of an episode can abort an attack of familial periodic paralysis. It is also not surprising that a person with a diseased muscular system and a domineering father would choose to steal an automobile in an attempt to express his manliness and independence. The intense separation anxiety as evidenced by his depression and several of the TAT stories can be understood if one imagines a 4-year-old boy suddenly unable to move or to defend himself.

The discrepancy between the psychological test findings of organicity and the absence of organic cerebral pathology in patients with familial periodic paralysis (1, 4, 5) can be explained as follows: any patient with a chronic, organic, incapacitating disease will show evidence of that disease on any kind of psychological examination. Whether the cause of paralysis be of central or peripheral nervous system origin, or of muscular or metabolic origin, the patient perceives the final result of paralysis. The body image and self-image concepts are then altered in response to the paralytic episodes, and modified by the patient's other personal experiences. It is these altered concepts which appear on the psychological

³ The author wishes to thank Isabelle V. Kendig, Ph.D., of the Laboratory of Psychology, National Institute of Mental Health, for her invaluable assistance in testing the patient.

tests as evidence of organic pathology. "Repression of affect," similarly, can occur as a reaction to, rather than as a consequence of, organic disease. Hence, the preponderance of organic-like signs of the psychological tests need not be taken as evidence of organic brain pathology, but rather as the psychological reaction to repeated episodes of muscular weakness and paralysis.

Although there was considerable alcohol ingestion, possibly prior to the onset of the hallucinations, the time required for recovery was unusually long for an acute alcoholic psychosis. Furthermore, there was clear evidence of unrealistic behavior unrelated to alcohol ingestion in the patient's sudden elopement from the hospital. In view of the absence of schizophrenic signs on the psychological tests, the clinical diagnosis was that of a functional acute psychotic episode in a person with concurrent familial periodic paralysis and a sociopathic behavior disorder.

SUMMARY

The literature on familial periodic paralysis has revealed no cases of intercurrent psychosis. The patients have been described

by several authors as being relatively free of emotional difficulties, and this freedom has been attributed to the absence of cerebral pathology. A case is presented in which there was an acute psychotic episode during the course of familial periodic paralysis. The patient also had a sociopathic personality disturbance. Psychological test findings are presented, as well as the course of the psychosis. The relation of the patient's psychiatric symptoms and psychological test results to both his organic illness and his personal history is discussed.

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COMMENTS

RESTRAINT

Psychiatry would be wise to refrain from expressing an opinion on any subject, unless the subject matter is clearly within the realm of psychiatry. In other words, an individual psychiatrist, or psychiatrists collectively through the American Psychiatric Association, should not advise upon any topic unless clinical experience or scientific research has accumulated a relevant body of information, adequate to support the advice.

The public has a right to expect that a psychiatric opinion will be an expert opinion. Advice which is based merely on the convictions of an individual psychiatrist is likely to mislead the public, who will assume that it is an expert opinion based upon the collective knowledge of psychiatry.

An illustration is found in the public debates about the abolition of capital punishment. There is some evidence that capital punishment does not have the deterrent effect assumed by its proponents. Evidence of this nature has not been gathered by psychiatrists and does not belong in the realm of psychiatry. It is doubtful that psychiatry has anything to contribute to a debate about capital punishment.

On the other hand, there are many public issues to which psychiatry can make a contribution, by giving an expert opinion based upon the special knowledge inherent in the practice and science of psychiatry.

The legal rules governing criminal responsibility provide an apt illustration. These rules are not the prerogative of psychiatry—they are distilled from the knowledge of many disciplines. The ultimate responsibility for their formulation rests with the legislature. Psychiatry plays a leading role in the formulation of the tests because it is in a position to provide factual information and expert advice.

The same may be said of the role of psychiatry in relation to legislation governing the sex offender. At present, it is possible for a psychiatrist to make a reasonably accurate prediction of the outcome in a particular case. Even more accurate prediction tables should be forthcoming in the near future and they are bound to have an impact on some of the unnecessarily harsh, punitive laws now in existence. Likewise, psychiatry can put forward concrete, specific proposals in relation to such topics as juvenile delinquency, therapeutic abortion and sterilization.

The climate of public opinion is favourable to psychiatry. Psychiatric opinion is accorded a respectful welcome in most forums. This attitude may well change to scepticism if psychiatry does not practise restraint and refuse to enter into a discussion of controversial issues to which psychiatry can make no well-founded contribution.

K.G.G.

THE PIERIAN SPRING

Great minds are preeminently good or bad, and education makes them better or worse.

—SIR WILLIAM OSLER

PROCEEDINGS OF THE AMERICAN PSYCHIATRIC ASSOCIATION

SUMMARY OF MEETINGS OF COUNCIL AND EXECUTIVE COMMITTEE, MAY 1960 TO MAY 1961

This report presents in summary form the principal actions of the Council and the Executive Committee at meetings held throughout the year. Some routine matters, such as referrals to Committees prior to definitive action, are not included. Copies of the full minutes have been forwarded to the officers of each District Branch and Affiliate Society following the various meetings to keep their members informed of the matters that were considered and the action that resulted.

Executive Committee Meetings, June 23, September 12 and October 27, 1960. Approved the recommendation of the Ad Hoc Committee on Insurance and authorized the transfer of the APA malpractice insurance program from Lloyds of London to domestic carriers effective July 1, 1960. Also authorized the Committee to send a letter to the membership explaining the change of malpractice insurance coverage and to follow this with a brochure on insurance coverage. Heard a report from the Secretary regarding a meeting of a special committee comprised of representatives of the Council, Assembly, Membership Committee and the staff to discuss details involved in certifying District Branches to process APA membership applications. Directed that billing for dues and mailing of publications of the Association will start at the time of the Annual Meeting for new members regardless of when they are elected to APA membership. Directed that the request of a District Branch for certification to process APA membership applications must be submitted to the Secretary by December 15 of a specific year or the request will be held over until after the following Annual Meeting. Considered several items regarding resignations and other membership matters and took appropriate action. Approved the recommendation of Dr. Henry Laughlin, APA representative to the Council on Medi-

cal Television, that the Association retain its membership with this Council for another year and authorized the payment of dues and registration fees from the Council Contingency Fund. Indicated that the APA always welcomes its friends from abroad, particularly during the Annual Meeting, but with full appreciation of the problems involved in planning the Third World Congress of Psychiatry, it was suggested that visits to the U. S. not be encouraged until after the Congress is adjourned. Approved for one year the recommendation of the Board of Tellers to include biographical material on candidates for APA offices, but directed that the plan should be limited to the nominees for the Council and any other office in competition, and the biographical material should be limited to his address, position or employment title, elected offices and Committee Chairmanships that he has held in the activities of the Association. (Amended by the Council, December 2, 1960.) Elected office in District Branches should also be included with the biographical material. The Nominating Committee was directed to gather this information as a part of its work in selecting candidates. Authorized a contribution of \$50 to the National Society for Medical Research from the Council Contingency Fund. Appointed Dr. Reginald Lourie to act as Co-Chairman of the Institute of Child Psychiatry Training to be sponsored jointly by the APA and the American Academy of Child Psychiatry. Appointed Dr. Melitta Schmideberg to represent the Association at the Second United Nations Congress on the Prevention of Crime and Treatment of Offenders which was scheduled to be held in London, August 8-20, 1960. Directed the Treasurer to contact a foundation to solicit a small grant to underwrite the expenses of a visiting lecturer under the auspices of the APA to the Eighth World Congress of the Interna-

tional Society for the Welfare of Cripples. Approved publication of the manuscript on source material dealing with youth and its problems as prepared by the Committee on Academic Education provided sufficient financial support was obtained to offset any losses that would otherwise be incurred by the Association. Was informed of the following Presidential appointments: Drs. Ewald Busse, Maurice Linden and Mathew Ross as Delegates, and Dr. Alvin Goldfarb as Alternate, to the White House Conference on Aging, January 9-12, 1961; Dr. George S. Stevenson as representative at the 1960 annual meeting of the World Federation for Mental Health, August 7-12, in Edinburgh, Scotland; and Dr. Henry Laughlin as representative to the 1960 annual meeting of the Royal Medico-Psychological Association in London. Reaffirmed its previous action (March 1948) favoring inclusion of the name of Miss Dorothea Dix in the Hall of Fame. Agreed to nominate a candidate for the Distinguished Achievement Award presented annually by the medical journal *Modern Medicine*, and unanimously nominated Dr. Earl D. Bond as the APA candidate for this Award. Approved the publication of the brochure "Psychiatric Units in General Hospitals" in accordance with the recommendation of the Committee on Standards and Policies of Hospitals and Clinics. (This brochure was prepared by the Committee in Liaison with the American Hospital Association and its counterpart committee from the AHA.) Directed that the Association would not be able to make a financial contribution to the exhibit proposed by the U. S. Committee for the International Conference on Social Work for display at the Tenth International Conference in Rome in January 1961. Appointed Dr. Anthony Maniscalco as representative to the American Nurses' Association and the National League for Nursing. Heard the Treasurer report that in accordance with a previous directive of the Executive Committee he had contacted the Milbank Foundation and requested a small grant to underwrite the expenses of a guest lecturer for the Eighth World Congress of the International Society for the Welfare of Cripples. A grant of \$1200 was approved by the Foundation with the understanding that

unexpended funds would be returned. Following the payment of the expenses, a small surplus remained in this account. The Treasurer was directed to contact the Foundation for permission to pay a \$250 honorarium to the guest lecturer from the balance. Suggested the appointment of a member of the Committee on Aging from the New York City area as representative to the Second Annual Conference of the National Committee on Aging and authorized payment of expenses not in excess of \$15. Authorized the Treasurer to pay financial obligations of a continuing nature after they have been initially approved by the Council until such time as the obligation may be formally terminated. Authorized the purchase of a new U. S. flag for the Central Office with the expense to be charged against the Council Contingency Fund. Did not approve a proposal from the Board of Tellers that a photograph of each candidate should be included on the ballot along with biographical material. Amended and approved the membership application form endorsed by the Membership Committee. Authorized the Medical Director to negotiate with a travel agency regarding the possibility of chartered flights for APA members and their families to overseas scientific meetings and to ascertain the amount of membership interest in such flights through an announcement in the Mail Pouch. Regarding the proposed tour the U. S. facilities for foreign guests following the Third World Congress of Psychiatry, several guide lines were formulated to assist the APA Liaison Committee with arrangements: (a) The APA would not provide financial help for the travel of foreign visitors who were interested in visiting psychiatric facilities in the U. S. (b) Such travel would be encouraged only after the Congress. (c) An informal tour of one week through the major facilities in the adjacent eastern states of the U. S. would be arranged for the visitors, and in addition, they would be notified that other facilities would be happy to welcome them should their plans involve trips to other parts of the country. The Liaison Committee was specifically encouraged to continue its efforts to arrange a suitable one-week, post-congressional tour of the U. S. facilities and to

explore at its discretion such other hospital-ity measures that seem appropriate. Asked the Secretary to inform the Indian Psychiatric Society that their invitation for the APA to send a representative to their annual meeting in Ranchi, Bihar on February 8-12, 1961 would be taken under advisement.

Council Meeting, December 2-3, 1960.

Amended the previous action of the Executive Committee so that biographical material would be included on the ballot for all nominees for APA office. Amended and approved the recommendations from the Executive Committee regarding ethical complaints as follows: 1. The Secretary shall sign all letters related to ethical charges and the ultimate decisions, favorable or unfavorable, in such matters as an instrument of the Council. 2. When a complaint is received from any source against a member of the APA, the Secretary shall advise the member of the specific complaint and his rights and obligations in dealing with the matter. 3. When the Committee on Ethics recommends that a member be cleared of specific charges and its recommendation is approved by the Council, the Secretary shall write to the accused member stating in unequivocal terms that he is exonerated. 4. When a complaint is received from any source against an individual who is not a member of the APA, the Secretary shall advise the complainant that the Association has no jurisdiction in the matter. Supported the belief of the Long Term Policies Commission that Sections perform a useful function in opening up particular areas of psychiatry and in providing a forum for members to meet, to discuss and to exchange views relating to such areas. Approved the recommendation of the Commission that the five measures regarding Sections adopted by the Council on May 7, 1960 should be studied in operation for at least one year before further changes in the organization and function of Sections are considered. Amended and approved the recommendation of the Commission that reports from Section Chairmen and reports specifically on the operation of the Sections from the Chairman of the Program Committee should be submitted to Council at the time of each Annual Meeting with the understanding that such Sections that do not have

an opportunity to report may present either a written or verbal report to the fall Council Meeting. Amended the recommendation of the Commission and directed that the Committee on Committees assume the function of a Reference Committee and empowered it to use as a consultant the Chairman of any other Committee or Commission necessary to accomplish its purpose. It was agreed that such a Reference Committee should be supplied with the necessary staff assistance. Approved the recommendation of the Commission that from time to time Task Forces should be set up by the Council, when necessary, to deal with problems requiring assistance not ordinarily available to the Committee operating within the area in which the problem has arisen; that such a Task Force should consist of a sub-committee of an existing Committee together with individuals from outside the Association. Membership of the Task Force are to be appointed by the President on recommendation of the Chairman of the Committee concerned. The Task Force should be assigned for a specific area of operation and set up for a limited period of time. Approved in principle the recommendation of the Commission that it would be desirable to have staff assistance made available to each of the three Coordinating Committees and that a fourth staff person should be in charge of staff assistance to all Committee work, but that implementation of the recommendation would be dependent upon the availability of funds. Approved the recommendation of the Commission that when an Archivist-historian is appointed to the Central Office staff, the cross-indexing of Committee reports should be one of his assignments. The recommendation of the Commission that the possibility of listing all papers delivered at meetings organized by the APA which are not published and making the list available to the membership, be referred to the Committee on Internal Management, was disapproved. Approved the recommendation of the Commission that the Program Committee give consideration to the proposal that the Isaac Ray Lecturer have an opportunity to present a lecture on his subject to the members at the Annual Meeting. Reaffirmed its previous action of May 1953 that APA representatives work

with representatives of other national psychiatric organizations looking toward the formation of a world psychiatric organization. Authorized the Executive Assistant to send out the 1961-62 dues notices on or about May 15, 1961 and empowered the Treasurer to borrow sufficient funds to meet current operating expenses of the Association until these dues are received. Approved the budget recommended by the Budget Committee for the 1961-62 fiscal year as presented. Approved a general endorsement of the manuscript "Services for Children with Emotional Disturbances" prepared by the Committee on Child Health of the American Public Health Association. Indicated that since the APA recognizes only the American Board of Psychiatry and Neurology, Inc. as the examining body for certification of specialists, the Association does not evaluate other approving bodies for such certification. Approved the recommendation of the Policy Committee and recommended to the membership the approval of the application of the Prairie Provinces District Branch (Manitoba, Saskatchewan and Alberta) and its assignment to Area Four. Expressed appreciation to Dr. Henry Davidson for the exceptional work he has done as Chairman of the Committee on Constitution and By-Laws. At the request of the Committee concerned changed its name to the Smith Kline and French Foundation Awards Committee. Requested the President to appoint an Ad Hoc Committee to serve in liaison with the Council on Mental Health of the American Medical Association and attempt to extend for a reasonable time the period during which foreign-trained physicians who have not been certified by the ECFMG will be permitted to remain with their hospitals. Authorized the House Committee to offer up to \$37,500 for the property 1807 R Street to complete the parcel of property contiguous to the Central Office. Approved the recommendation of the Committee on Psychiatry of Childhood and Adolescence and established the McGavin Prize to be awarded in the amount of \$500 for the best work in the previous year related to the preventive aspects of the emotional disorders of childhood. This Prize will be on a non-competitive, non-invitational basis and

will not be awarded in any year in which appropriate and important work in the preventive field would not be available or until such time as the Council decides otherwise. It is further understood that income from the bequest will be used for this Award with a portion of the income to be utilized for the expenses of a Selection Committee. Approved the request of the Committee on Mental Deficiency to proceed with the planning of the proposed Exploratory Meeting on Mental Deficiency and authorized the Committee to submit an application for funds in the name of the APA to appropriate sources. Approved the recommendation of the Committee on Public Health regarding the medical provisions of the Immigration and Nationality Act as follows: 1. That the technical medical terms used be those of the international classification. 2. That persons who have had no psychosis within the past 5 years be eligible for admission. 3. That persons with epilepsy who have been symptom-free for one year or longer be admissible. Approved the recommendation of the Committee on Rehabilitation that a liaison representative not be appointed to the Association for Physical and Mental Rehabilitation. Approved the recommendation of the Committee on Rehabilitation that the Council submit a statement on the attitude of the APA on the proposed Congressional Bill HR 12328 on Special Education and Rehabilitation. Indicated that a letter should be prepared for the President's signature expressing the APA's appreciation and congratulations to Miss Mary Switzer, an Honorary Fellow and Director, Office of Vocational Rehabilitation, in recognition of her efforts over the years in rehabilitating the handicapped upon her completion of 10 years of service. Approved the proposal of the Committee on Research to change the emphasis of its Regional Research Conferences, but directed that such Conferences should be continued, and expanded, if possible. Reaffirmed its previous policy regarding non-medical psychotherapists as follows (November 1958): "It is imperative that all psychologists dealing with persons suffering from mental and nervous diseases and disorders should do so only under supervision by psychiatrists and in a medical setting offering adequate safeguards to the patient."

Approved the recommendation of the Committee on Therapy that a physician administering drugs to a patient in collaboration with a non-medical psychotherapist should actively and continuously supervise these treatments to insure the safety of the patient. Approved the recommendation of the Committee concerned and changed its name to the Committee on Psychiatry and Social Work. Approved the request of the Committee on Private Practice for permission to seek funds to investigate the psychosocial dimensions of the use and abuse of outpatient psychiatric health insurance programs. Approved the following Resolution prepared by the Committee on Nomenclature and Statistics and authorized the Committee to speak for the Association in dealing with the American Medical Association regarding this matter: "Resolved That the diagnosis (Page 79, Diagnostic and Statistical Manual of Mental Disorders) 'Chronic Brain Syndrome' without qualifying phrase should be changed in meaning to indicate the presence of a psychosis as is the case in the acute brain syndrome." Agreed that when the APA is invited to send a representative to a foreign meeting, the Association should not be represented unless a member who would be an appropriate representative is visiting the meeting under other arrangements. It was also agreed that ideally the Association would pay the expenses in sending a properly qualified representative to such meetings, but practically, this is impossible because of the expense involved.

Executive Committee Meetings, January 13 and March 4, 1961. Authorized the Treasurer to sell the common stock of General Telephone and Electronics Corporation and Treasury Bonds owned by the APA sufficient to provide a total of \$45,000 which was estimated as the amount of cash necessary to operate the Association until June 1, 1961, when dues for the next fiscal year would be available. Amended and approved the statement on hypnosis prepared by the Committee on Therapy. (Prior to its release, this statement was circulated to the Councillors, who approved it by a mail vote as an official policy statement of the Association.) Authorized continued APA representation to the American Registry of Physical Therapists, and the President an-

nounced the appointment of Dr. George W. Brooks to serve as this representative. Approved in principle a proposed Joint Meeting between the Committee on Disaster and Civil Defense and the National Association of State Mental Health Program Directors with the understanding that the APA could not finance a special meeting for this purpose. It was also understood that if such a meeting were scheduled at the time of the Annual Meeting, the APA would not underwrite the expenses of non-members of APA and that consideration should be given to the possibility of scheduling the Joint Meeting at the time of the Mental Hospital Institute, when the NASMHPD normally meets. Indicated that under ordinary circumstances, Divisional Meetings and Fall Committee Meetings not be scheduled concurrently. Approved any arrangement negotiated by a local committee to handle exhibits for a Divisional Meeting as long as the arrangement is not in conflict with established APA policy. Indicated that except for emergency situations, any matter concerning a Committee should be routed through the responsible Coordinating Committee Chairman prior to consideration by the Executive Committee or the Council. Indicated that there should be no arbitrary objection to dedicating an APA publication to a living member of the Association. Was informed that Dr. Bartholomew Hogan had joined the Central Office staff on March 1 as Assistant Medical Director. Was informed by the President of the appointment of Dr. Alan McLean as representative to a meeting scheduled by the A.M.A. Council on Occupational Health in Chicago on May 6, 1961; also, that Dr. Walter Barton would represent the President at a meeting scheduled by the A.M.A. Committee on Continuing Education of Physicians in March 1961. Directed the Committee on Membership to defer action on all membership applications when the professional competence of the applicant is questioned because of the ECFMG ruling until the matter is clarified by the Council. Instructed the Ad Hoc Committee on ECFMG to explore the possibilities of extending the examination deadline to either January or June 1962 and the establishment of an oral screening examination to select those individuals who

might be able to qualify for a subsequent ECFMG examination after additional training. Indicated that participation in the Exploratory Conference on Mental Deficiency should not be limited to physicians but rather that it should be open to any professional group with the necessary training and interest. Concurred with the President in the appointment of Dr. Mabel Ross as APA representative to the Council of National Organizations for Children and Youth. Approved the establishment of a Task Force on Juvenile Delinquency, requested the President to make the necessary appointments, authorized the solicitation of outside funds for this purpose, and authorized the activation of the Task Force following the submission and approval of a budget. Indicated its desire to continue the relationship with the National Academy of Sciences-National Research Council and was informed by the President of the reappointment of Dr. Henry Brosin as APA representative from July 1, 1961 through June 30, 1964. Approved co-sponsorship of the 1961 Symposium on Mental Health in Business and Industry as recommended by the Chairman of the Coordinating Committee on Community Aspects of Psychiatry. Was informed of the Presidential appointment of Drs. Kenneth Appel and Mathew Ross as APA representatives to the meeting of the American Academy of Political and Social Science in Philadelphia on April 14-15, 1961. Voted not to accept an invitation to become a charter member of the proposed International Association for the Study of Higher Nervous Activity. Agreed that although psychiatry does not have a major interest in this problem from a clinical standpoint, it would be desirable to be represented at the A.M.A. Conference in Chicago on April 13-14, 1961 to develop standard identification devices to assist physicians, police and others confronted with emergencies in which individuals are found unconscious without obvious cause. The President announced the appointment of Dr. Benjamin Boshes to serve as APA representative to this Conference. Reaffirmed its previous decisions regarding a post-Congressional tour of U. S. psychiatric facilities by foreign colleagues following the Third World Congress of Psychiatry and

urged the membership to render all possible hospitality to such guests during their visit.

Council Meetings, May 6, 7, and 11, 1961.

Ratified the President's Statement on Confidentiality as a personal statement and referred the matter to the Reference Committee for the formulation of an official policy statement. Ratified the actions of the Executive Committee *en bloc* since the fall Council Meeting. Approved, as amended, the list of members whose dues are 3 years in arrears and authorized the Executive Committee to reconsider any individual whose unpaid dues are received subsequent to this Annual Meeting. Approved, as amended, the recommendations of the Committee on Membership regarding applications for membership and changes of status in the Association and directed that the list be submitted to the membership for action. Directed the Chairman of the Membership Committee to work with the Speaker of the Assembly and the Central Office, utilizing the services of the Assembly when appropriate, in attempting to reduce the number of members whose dues are in arrears. Raised the membership dues \$5.00 for Associate Members, and \$10.00 for Members and Fellows effective April 1, 1961 in accordance with the recommendation of the Budget Committee. Authorized the Treasurer to deposit the McGavin bequest in a savings account at his discretion. Authorized the Treasurer to expend grant funds from the NIMH for the Conference on Graduate Psychiatric Education and the Conference on Child Psychiatry Training in accordance with the respective budgets and the requests of the Medical Director. Approved the Royal York Hotel in Toronto as the site for the 1962 Annual Meeting on May 6-11. Directed that a letter should be prepared for the President's signature expressing the appreciation of the Council to Mrs. Adolf Meyer for the generous gift of her late husband's library to the Association. Approved the recommendation of the Medical Director to utilize the Coordinating Committees to analyze the final report of the Joint Commission on Mental Illness and Health, to assist in the formulation of an official position on the Joint Commission's recommendations, and to prepare for active participation in their implementation.

Amended the draft of the proposed new Constitution and By-Laws but deferred further action on the document until the 1961 Fall Council Meeting to give the Assembly and other appropriate bodies in the Association ample opportunity to study it. Approved the recommendation of the House Committee and authorized up to \$800 from available funds to prepare and frame pictures and quotations of Past-Presidents from APA's first century. Authorized the House Committee to continue to express interest in the property immediately north of the Central Office on 18th Street. Authorized the House Committee to purchase property 1807 R Street at its discretion for a price that the Committee considers satisfactory. (The 1807 R street property adjoins the Central Office and is the only one of three contiguous row houses not presently owned by the APA.) Approved the recommendation of the Ad Hoc Committee on Internal Management and reconstituted it as the Internal Management Commission with the following membership: Dr. Robert Felix, Chairman; Dr. Jack R. Ewalt; Dr. Addison Duval; Dr. C. H. Hardin Branch; and Dr. Mathew Ross; and as *ex-officio* members, the President and the Chairman of the Budget Committee. Expenses for the Commission will be charged against the Council Contingency Fund. Approved the following 7 recommendations prepared by the Commission on Long Term Policies after the Commission reviewed recommendations prepared by the Standby Committee on *The American Journal of Psychiatry*: 1. That editorial policies should be more closely correlated with the overall policies of the Association. 2. That the operation of the Journal should be reviewed by Council, or by a Council-designated body, at regular intervals, preferably every 6 years. 3. That the Editor-in-Chief should be a Fellow of the Association; that he should be appointed for a 6-year period with a reasonable anticipation of reappointment until a predetermined retirement age. 4. That the Editorial Board should be a working Board, holding regular meetings. 5. That the members of the Editorial Board should be appointed by Council on nomination by the Editor-in-Chief after consultation with the Editorial Board. 6. That the term of office

for members of the Editorial Board should be 6 years; 2 members of the Board to reach the end of their tenure of office each year with the possibility of reappointment. 7. That the major publication activities of the Association should be integrated with respect to their business aspects. Reaffirmed its desire to see the establishment of a world psychiatric organization, recommended that this be done by reconstituting the existing body, and suggested that such action be taken at once. Discharged the Committee on Increasing Responsibilities with thanks at the Committee's request. Approved the recommendation of the Committee on Committees that the duration of the Fall Committee Meetings should be determined on the basis of yearly workloads of the various Committees and that the Committee on Committees be charged to report to the Council at the Annual Meeting its recommendations as to the time needed for the forthcoming Fall Committee Meetings. Approved the recommendation of the Ad Hoc Committee on District Branch Committees that each Coordinating Committee Chairman be instructed to request that each of his Committees designate one of its members as District Branch Liaison Committeeman. Recorded a vote of appreciation to the Program Committee in recognition of its work upon receiving the Committee's report. Approved the following Resolution: "The Council recommends to the membership that the American Psychiatric Association in its Annual Meeting 1961 express its concern over the exclusion of mental patients (along with tubercular patients), under certain conditions, from benefits of Federal Public Assistance in several categories and as amended in the Total Disability Law and the Kerr-Mills Bill (Public Law 87-778). It is believed that due to changed conditions and the recent provision of Federal funds for treatment of other medical conditions, mental patients are placed in an inequitable position and prevented from obtaining treatment equal to that afforded persons with other diseases. "It is requested that leaders of the administration and the Congress arrange for a study in this matter and all the implications of treatment and cost as recommended by the President's Advisory Committee on

Public Assistance, January 1960, so that the laws may be changed if justification is found." Authorized Dr. D. Ewen Cameron to explore the possibility of encouraging the Modern Founders to assist in the development of the APA Endowment Fund with the APA Treasurer continuing to act as recipient of such funds as may become available. Elected Dr. Walter E. Barton as Moderator for the next year. Elected Dr. Robert H. Felix and Dr. M. Ralph Kaufman to serve on the Executive Committee. Approved the appointment of Dr. Jack A. Wolford and Dr. Gene L. Usdin to serve on the Membership Committee until 1964. Approved the recommendations of the Incoming President and continued the following Ad Hoc Committees for the next year: Convocation, District Branch Committees, Insurance, Joint Committee with the Canadian Psychiatric Association, Pre-Registration at the Annual Meeting, Recognition for Allied Service Personnel in Mental Hospitals (the name of this Ad Hoc Committee was later changed to Recognition for Psychiatric Service Personnel, at the request of the Committee). Approved the scheduling of a Divisional Meeting in St. Louis on November 7-9, 1963. Approved a letter to the Attorney General of the U. S. prepared by the Committee on Psychiatry and the Law and authorized the Committee to send the letter over the President's signature. (This letter commended Mr. Robert Kennedy for recognizing that delinquency is a problem solvable by scientific means; called his attention to the availability of specialists within the APA who have compiled considerable knowledge about effective ways of handling delinquents, and offered to cooperate with him in any way he might suggest in dealing with this social illness.) Approved the following requests from the Ad Hoc Committee on Recognition for Psychiatric Service Personnel: 1. Authorization to obtain estimates of costs involved and the number of participating subscriptions that could be

sold to an expanded APA Mental Hospital Services program to include a news sheet or supplement prepared specifically for psychiatric service personnel. 2. Authorization to investigate sources of financial support for at least a 2-year trial in providing the proposed services. 3. Authorization to study sources of revenue which would allow the APA to provide the several forms of recognition proposed for psychiatric service personnel without added expense to the Association. (The Committee suggested recognition pins and wallet or purse identification cards.) Appointed Dr. Lorne D. Proctor to the Editorial Board to fill the vacancy created by the resignation of Dr. John Whitehorn. Authorized \$150.00 honoraria to Dr. Heinz Von Foerster and Dr. Hubert W. Frings in addition to the reimbursement of their expenses, in recognition of their outstanding papers on communication presented at the 1961 Annual Meeting. Nominated Dr. Ewald W. Busse for a 4-year term on the American Board of Psychiatry and Neurology as one of the representatives of the APA. Approved in principle the establishment of a central repository for the collection, analysis and dissemination of mental health manpower information to be administered by the National Institute of Mental Health and offered the cooperation of the APA in the development and implementation of this endeavor. Approved the recommendation of the Ad Hoc Committee on Insurance and authorized a revision of the life insurance units available to the membership under the APA insurance program to \$25,000 per unit and authorized the Treasurer to send an appropriate announcement to the membership. Requested the Membership Committee to present its recommendations regarding candidates for advancement to Fellowship at the 1961 fall meeting of the Council, if possible.

C. H. Hardin Branch, M.D.,

Secretary, 1960-61.

REPORT OF THE TREASURER

I am happy to present to you my second annual report as Treasurer.

In general, our financial stability has continued to be good during the past year. Those problems which have developed have concerned principally the final adjustment in cash reserves which were depleted because of the purchase several years ago of our Central Office Headquarters Building and its rehabilitation; secondly, the purchase during the year of two adjacent properties at 1809 and 1811 R Street N.W., Washington, D. C.; and thirdly, the need to expand our various committee activities.

These needs have been carefully considered and Council has decided to recommend to the membership a raise in dues which will produce the necessary funds to meet the requirements just mentioned. It was necessary to delay the submission of dues notices from February to May 15th in this connection. The dues problem will be presented to you on Wednesday.

As of March 31, 1961, our assets amounted to \$601,114, not including special purpose and restricted funds of approximately \$73,922. Our fixed assets in Washington amount to a value of \$331,737, excluding an accumulated depreciation reduction of \$23,619. Beginning in 1959-60, buildings are being depreciated at the rate of 2% per

year and furniture and equipment at the rate of 33 1/3% per year.

We hold marketable securities with a present value of \$145,000, which cost us \$82,000.

Our income for the year amounted to \$622,666, while our expenses were \$573,000. Special mention should be made of the profitable operations of the News Letter and Mail Pouch, the Mental Hospital Service and Institute of the *Journal*. The various committees also are to be commended for staying within budget allocations.

The Treasurer is happy to report that our recommendation of last year for the appointment of an Internal Management Committee has been implemented during the year and on yesterday the Council changed this Committee to a Commission for more stable operation.

In conclusion, the Treasurer would like to assure the membership that the funds of the Association are received and disbursed under proper operating procedures and are safeguarded at all times.

My special thanks are extended to Mr. Austin Davies for his cheerful cooperation and helpful assistance throughout the year.

Addison M. Duval, M.D.,

Treasurer.

REPORT OF COORDINATING COMMITTEE CHAIRMAN ON THE TECHNICAL ASPECTS OF PSYCHIATRY

I have the pleasure of reporting on the wide ranging activities of your Committees on the Technical Aspects of Psychiatry. In a composite presentation such as this, it is difficult to adequately reflect the scope of the work accomplished and impossible to suitably note the contributions of the various committee members. Nevertheless, in enumerating the highlights of the year's work, the Association will again recognize its indebtedness to the individual members of the various committees.

The members of the Committee on Aging,

under the chairmanship of Ewald W. Busse, and other members of the American Psychiatric Association, participated in the White House Conference on Aging as well as in the preliminary state meetings. The effective work of psychiatrists was reflected in a number of important reports emanating from the White House Conference. A comprehensive review of the accomplishments of the Conference will be given at this annual meeting. Psychiatrists' interest and training in the field of Geriatrics was resurveyed in 1960. The data have been

analyzed and a report of the results prepared by Dr. Goldfarb for submission to Council.

The Committee on the Psychiatry of Childhood and Adolescence, chaired by Reginald S. Lourie, has secured funds to conduct a Conference on Training in Child Psychiatry in conjunction with the American Academy of Child Psychiatry. Dr. Lourie and Dr. Othilda Krug, the co-director of the Conference for the Academy, have set up planning meetings for a preparatory commission to begin functioning. Mr. Robinson of the Central Office is an integral part of the planning phases.

A committee proposal for the establishment of a task force to consider the role of the psychiatrist and the APA in juvenile delinquency has been approved by Council. Dr. Stuart Finch has accepted the chairmanship of this task force and is making plans for its membership and meetings. There is a good possibility that foundation support will be available for the work of this task force.

The APA received a bequest from the late Dr. Agnes P. McGavin to be used in the field of child psychiatry. On recommendation of this committee, Council approved a McGavin prize to be awarded on a non-competitive, non-invitational basis for the best work in a previous year related to the preventive aspects of the emotional disorders of childhood. A selection committee is being appointed for this purpose. On recommendation of this committee, Council approved an APA official representative, Dr. Mabel Ross, to the Council of National Organizations for Children and Youth which is intended to implement the recommendations of the 1960 White House Conference on Children and Youth and plan for the 1970 meeting.

J. Sanbourne Bockoven, chairman of the Committee on the History of Psychiatry, indicates that the committee has developed a 3-fold definition of its function: 1. The procurement of accurate record keeping of the actions, decisions and policymaking of the Association; 2. The encouragement of study and evaluation of the existing body of recorded information as it reflects the successes and failures of psychiatric endeavors

of the past; 3. The encouragement of awareness among Association members of our continuous need for application of historical insights in charting future courses of professional and organizational activity.

A symposium is in preparation on "The Historical Role of the Physician in Relation to the Mentally Ill" to be submitted for the annual meeting in 1962. Also, plans are being laid for an exhibit at the 1962 annual meeting commemorating the 150th anniversary of the publication of Benjamin Rush's *Medical Inquiries and Observations upon the Diseases of the Mind*, published in Philadelphia in 1812.

Members of the committee have visited Central Office and the New York Office to identify materials of possible archives importance. Contact has been made with senior members of the Association in an effort to secure first-hand accounts of the modern history of psychiatry. Efforts have been made to locate portraits of historical importance to psychiatry and the possibility of developing a history section of the library in the Modern Founders room in the Central Office has been explored. This committee has contacted the district branches of the Association in an endeavor to survey APA membership interested in participating in a project to prepare a series of publications on the history of psychiatry.

The Committee on Medical Education, C. Knight Aldrich, chairman, reviewed its role in the forthcoming conference on graduate education; reviewed and made recommendations concerning overall committee structure; participated with the Committee on Therapy in deliberations relative to the policy statement on "hypnosis"; and sponsored a round table at this annual meeting on "A Matching Plan for Resident Selections in Psychiatry."

The Committee on Mental Deficiency, under the Chairmanship of George Tarjan, requested and received Council approval for an exploratory meeting on mental deficiency and has been authorized to apply for outside funds. It was further recommended that the securing of such support should not modify the intent of the association to develop the conference under the primary auspices of the APA.

Under authority of Council, the president of the Association has written to the president of the American Association of Mental Deficiency regarding a liaison relationship between the APA and the AAMD.

This committee has reaffirmed its support of the principle of unity, that all mental health programs be under a single administrative agency, and is, therefore, in opposition to any trend which would separate programs for the mentally retarded from the organizational unit having responsibility for the care and treatment of the mentally ill.

This committee recommended the inclusion of mental retardation units in the proposed *study of standards for public mental hospitals* under the auspices of the Committee on Standards and Policies of Hospitals and Clinics. The latter committee has indicated its recognition of the need to include such institutions in its proposed project.

An item given high priority in future activities is the development of a suggested basic curriculum in mental retardation for residents in psychiatry.

James V. Lowry, chairman of the Committee on Public Health, reports that the committee's project relative to the care given psychiatric patients in nursing homes, including the licensing and supervision provided, will be completed within the next year. This is being done through the cooperation of district branches and state societies. The committee indicates that information at hand supports the need for district branches to interest themselves in local licensing law provisions for psychiatric patients in nursing homes.

During the year, the committee has assisted the American Public Health Association in reviewing a *citizen's guide to a community mental health survey* and also, in conjunction with the same association, studied and made recommendations relative to a publication entitled: *A Guide to Control Methods for Mental Disorders*. The Committee on Public Health sees this type of assistance to the American Public Health Association as one of its principal functions and one which will extend the influence of the APA to the members of another large and nationally important pro-

fessional group.

The Committee on Public Health reviewed the present medical provisions of the Immigration and Nationality Act and recommended, which was subsequently approved by Council, that the act be changed to allow individuals to become eligible for admission to this country who have been without psychosis within the preceding 5 years, and persons with epilepsy who have been symptom-free for one year or longer.

It was also recommended that the technical medical terminology used in the Act correspond to the international classification.

Benjamin Simon, Chairman of the Committee on Rehabilitation, represented the APA at various national and international meetings and also on committees of various national organizations in the general field of rehabilitation. Dr. Simon also served as consultant for several state mental health surveys by the Association.

In conjunction with the Committee on Therapy, a joint subcommittee was formed to study and evaluate occupational therapy as a treatment procedure.

The committee indicated its opposition to any legislation which would create a separate office of special education and rehabilitation on a federal level. This position was approved by Council as a policy of the Association.

A round table meeting on "Integration of the Services of Administratively Independent Psychiatric Rehabilitation Agencies" was sponsored by this committee for the current annual meeting.

A pilot study on rehabilitation, for which the committee received a grant a number of years ago and which has been under way at the Boston State Hospital, is being completed and a publication on this work is anticipated during the ensuing year.

Under the chairmanship of Milton Greenblatt, the Committee on Research reports the following:

The committee, through its representative Dr. Ulett, assisted at the October 1960 regional research conference on "Psychiatric Research in Public Service," sponsored by the Mayo Clinic and the St. Paul Department of Public Welfare. The manuscript of

this conference is now being prepared for publication in the *Psychiatric Research Reports* series.

One of the main concerns of the committee during this period was the obtaining of funds necessary to publish future issues of *Psychiatric Research Reports*. Various sources are now being contacted in this regard.

The *Proceedings of the Iowa City Regional Research Conference* were published in November 1960 as the 13th in the "Reports" series and is entitled "Child Development and Child Psychiatry—In Tribute to Dr. Arnold Gesell in his 80th Year."

For the December 1960 meeting with the American Association for the Advancement of Science, a well-received symposium on "Emotions in Man" was organized by committee representative Dr. Knapp.

The Adolf Meyer memorial lecture at the present annual meeting will be given by Dr. John Bowlby of Tavistock Clinic, London, who will speak on "Childhood Mourning and its Implications for Psychiatry." The pharmaceutical company, which has been the sponsor of the 5 lectures in this series, will continue its support for one more year and may possibly consider further sponsorship.

Also, at this annual meeting, the Committee on Research will present a round table panel. Dr. Epstein has organized and will moderate a discussion on "The Mental Hospital in Transition: Research Setting and Research Potential."

The Committee on Therapy, Henriette Klein, chairman, during the current year, developed a statement on hypnosis after consultation with various committees, including the APA Committee on Medical Ed-

ucation, Committee on Research, Committee in Liaison with the American Academy of General Practice, as well as the Council on Mental Health of the American Medical Association. This was submitted to Council and approved with circularization to the entire membership.

As previously reported by the Committee on Rehabilitation, a subcommittee on occupational therapy was appointed in conjunction with the Rehabilitation Committee to conduct an inquiry into current practices and research in that particular field. This study is nearing completion.

The Committee developed a policy on the administration of certain potent drugs used by non-medical psychotherapists, which was approved by Council.

The committee members were consultants for Dr. Paul Feldman on his study of the Current Status of Psychotherapy with Hospitalized Schizophrenic Patients which includes the extent to which psychotherapy is currently in use for that group of patients, and the individually determined judgment of its effectiveness by each hospital-facility in the sample studied. This will be published by him as an independent study.

All committees considered the suggestions made by the president to strengthen the APA committee structure and also reviewed the functions of their individual committees. Their recommendations have been submitted to Council.

In concluding this report, I wish to thank the various committees for the cooperation and support given me and to express my appreciation for the opportunity of working with them during these several years.

Harvey J. Tompkins, M.D.,
Chairman.

REPORT OF THE COORDINATING COMMITTEE CHAIRMAN ON COMMUNITY ASPECTS OF PSYCHIATRY

It is again an honor to represent through this report the 10 Committees of the Community Aspects of Psychiatry. As noted in the Presidential Address, shifts in hospital practices are making and will make even more in the future, psychiatric consultation, diagnosis and treatment tasks at the com-

munity level larger and more challenging. The community aspects of psychiatry certainly penetrate more widely in our Association's activities than is represented by these 10 committees. Nevertheless, these do have the heavy responsibility of furnishing ideational leadership to the Association in

this broad field. As coordinator, I am grateful to the chairmen of the committees for their leadership in services to you, the members of the Association. It was a pleasure to note that 3 of the 4 publications mentioned in Dr. Ross's report were the work of committees in this group. They were the glossary, produced by the Committee on Public Information, the annotated bibliography, *Sources of Information Behavioral Problems of Adolescence*, a product of the Committee on Academic Education, and the pamphlet on *Mental Health on the Job*, by the Committee on Occupational Psychiatry. The latter document, now out about 1 year, has sold 24,000 copies. Sales of the glossary are astronomical; they were brought to your attention last year in this report.

The Committee on Academic Education, from the Chairmanship of which Dr. Douglas Darling is retiring after very productive years, is studying the feasibility of a residency training program for psychiatrists in the mental health of college students. Its round table for this meeting, on Value Systems in Higher Education, has been carefully planned around an excellent discussion group. As one of the guardians of the money of our Association, this must be noted as having been accomplished at no expense to the Association. The Committee planned, and a member carried out, a study on the influence of the history of prior psychiatric treatment on college acceptance of a student for admission.

The Committee on Disaster and Civil Defense and on National Defense, Drs. Ed Koller and John Caldwell, Chairmen, respectively, have for the most part, integrated their work this year. They are literally facing life and death problems; and I sympathize with them as they wrestle mightily with what we will be responsible for in time of disaster. Their Sunday night discussion brought a conclusion that at least during the period of first impact, our job is likely to be that of a physician more than that of a specialist; perhaps this realization might have partaken in the motivation for President Felix' pleas in his address. While struggling still with the basic problem of the role of the psychiatrist in disaster, these groups are collaborating

in investigative and educational conferences. The collaboration of the Armed Services and the Office of Defense Mobilization with these committees deserves the thanks of the Association. The committee has sought and attained collaboration in the District Branches of the Association.

The Committee on International Relations, led by Dr. Lothar Kalinowski, entertained our foreign guests at luncheon. This group has studied and recommends the proposal to form a World Psychiatric Association. It has helped arrange opportunities for colleagues from abroad to reach psychiatric centers in this country, and is willing, with the help of Central Office staff, to aid our membership with recommendations for places of scientific interest to visit when abroad. As might be expected, this Committee is interested in the field of transcultural psychiatry and its development as a scientific field.

The Committee on Leisure Time and Its Uses, Alexander Martin, retiring Chairman, has cooperated with the Outdoor Recreation Resources Review Commission in arranging a 3-day conference on the topic, "Leisure, Recreation and Mental Health" to take place in early June. This multidisciplinary conference will undoubtedly result in clarification of aims and broader recognition of opportunities in this area of growing importance. The "package" of information on psychiatry and leisure collected by this Committee is in considerable demand. This group also publishes a newsletter so that our membership may have the latest information and be stimulated to interest in this field. A survey of teaching centers regarding the place of the subject of leisure time usage in teaching has been completed, as is a bibliography in this field.

The Public Information Committee, Henry Laughlin, Chairman, has its regular tasks of maintaining the Association's relations with the press at our annual meeting, a task done so well over the years that our policies have become models for other national professional organizations. Throughout the year, the committee gives consultation to writers and other producers of material which may have an effect on the public image of psychiatry. The Summary

of Scientific Papers, available for this Meeting, represent part of the work of this committee.

The Committee on Occupational Psychiatry, Ralph Collins, Chairman, has continued its multiple educational activities. Its contacts extend broadly, touching many other professional organizations, including the A.M.A. and government agencies interested in the general problem of rehabilitation. As already noted, the pamphlet on *Mental Health on the Job* has proved extraordinarily successful. This group publishes a quarterly newsletter distributed to about 500 persons particularly interested in mental health in industry.

Preventive Psychiatry, Dr. Henry Work, Chairman, is working on a series of papers, one of which is complete, for the education of general practitioners in certain aspects of psychiatry. Their enthusiasm is attested by the fact that they will need an extra meeting next year. The Committee has collaborated in state surveys. It is looking ahead at its next task, even while involved in the present one.

Dr. Earl Loomis' Committee on Religion and Psychiatry has done a study of our membership's attitudes in the fields represented. This committee is exploring the

area of its interests in its discussions.

The Committee on Veterans, under Dr. Seymour Rosenberg has studied the problems of the residency training programs of Veterans Hospitals, recommending strongly the further development of relationships with medical schools. This group is originating a further study of this feature of residency programs. The extension of Veterans' psychiatric programs to include newer techniques such as half-way houses, home care and paid work programs are recommended for further extension. This group is again studying the problem of recruitment facing the Veterans Administration to find ways of being helpful in this persistent issue.

Each committee has re-examined its terms of reference. The resulting statements will now be edited and codified in a manual so that continuous work can be assured. Each committee will make a special study of the Joint Commission Report as to pertinence of material for the Committees' fields of work. The addition of Dr. Hogan to the staff should further enhance the usefulness of committee work by affording more efficient administrative help and guidance.

Paul V. Lemkau, M.D.,

Chairman.

REPORT OF THE COORDINATING CHAIRMAN OF THE COMMITTEES ON PROFESSIONAL STANDARDS

I have the honor of presenting a summary of the activities of your 10 Standing Committees on Professional Standards. This completes my first year of responsibility as Coordinating Chairman and I am very pleased to commend the diligence of each of these Committees whose year-long efforts in your behalf have not only enhanced the stature of our Association in its many activities but also contributed significantly to the improved welfare of those whose care is our charge. Of necessity the work of these Committees in its major essentials is long term. The scope of the problems to which they address themselves preclude easy, rapid solution. In full appreciation of this

the Committees voluntarily have devoted much time and effort and have earned our thanks. I personally am grateful to their Chairmen and each individual member for their help and cooperation.

The Committee on Liaison with the Academy of General Practice has expressed a continuing interest in document "Psychiatry for the Non-Psychiatric Physician: a Bibliography" published by the National Library of Medicine. Currently, this publication is being revised and the Committee has recommended the addition of psychiatric annotations for each bibliographic listing.

As you know, the work of this Committee has been greatly facilitated by its participation in the General Practitioner Education Project in which our Association joins the American Academy of General Practice. In this connection, it plans to document the work done thus far as well as plan for new projects which will extend its liaison function to other national organized medical groups.

The Committee plans active participation in a conference planned for teachers of postgraduate psychiatry courses for non-psychiatric physicians which is tentatively to be held in Washington this fall. It also co-sponsors a regional AAGP-APA Conference to further postgraduate psychiatric education. In this connection one of its continuing concerns, the limitations and boundaries in psychiatric treatment by non-psychiatrist physicians, will be furthered by these activities.

The Committee in Liaison with the American Hospital Association has expended much effort successfully in the area of intergroup relations. A major undertaking which shortly will have the collaborative approval of the American Hospital Association is an important brochure on "Psychiatric Services in General Hospitals." This has had a final editing and we can anticipate its early release.

This Committee has a wide range of interests which, by their nature, overlap the concerns of other Committees and therefore the Association profits the more. In this frame of reference there is the Blue Cross plan for insurance for psychiatric patients, the American Bar Foundation project on the statutory provisions which safeguard the rights of the mentally ill, the problem of the legal implications involved in the responsibility for patients upon leaving the hospital as well as developments in related educational areas.

The Committee on Mental Hospitals functions in 6 areas: 1. The improved application of psychiatric standards used by the Joint Commission in Hospital Accreditation; 2. Cooperation with the enterprises of the Mental Health Service; 3. Efforts to

extend the scope of coverage in prepaid medical care programs to include mental illness; 4. Collation of material relating to the development and operations of mental hospitals; 5. Sponsorship of our annual round tables; 6. Collaboration with the APA Program Committee. Latterly the Committee has had a keen interest shared with others in the effects of the ECFMG on the staffing patterns in mental hospital facilities. It has also a collaborative interest in the work of an Ad Hoc Committee concerned with Allied Psychiatric Service Personnel.

The Committee on Psychiatric Nursing enjoys a mutually profitable relationship with national nursing organizations with whom it shares responsibility for the planning of a conference which will consider the nature of psychiatric nursing and the changing role of the nurse. It has jointly sponsored with the National League for Nursing a Seminar Project for Teachers of Psychiatric Aides. It proposes to explore the advisability of convening a multidisciplinary conference to be concerned with the nursing needs of the mentally ill. In this connection the Committee is involved in liaison efforts related to the accreditation of schools of nursing.

Committee on Nomenclature and Statistics is involved in the periodic revision of the Diagnostic and Statistical Manual of the APA. In this role it has recently been concerned with the ramified problem of making the APA classification interchangeable with the International one. The magnitude of this problem can be appreciated immediately if you will consider how deeply we and our hospitals are embedded in the existing system of maintaining hospital records. The Committee seeks a series of minimal changes which will leave much untouched, yet, by a judicious dropping out of certain categories and slight alterations of others it is hoped that the final product will be not only translatable but also more accurately reflective of current opinion and practice.

The work of the Committee on Psychiatry and the Law too is basically a long term operation. Such fundamental questions as

those involving privileged communication, the rights of the mentally ill, confidentiality, problems related to delinquency, the thorny issues of criminal responsibility and the like are not encompassed by any quick, extempore effort.

We are fortunate in the composition of the Committee to have a panel of distinguished authorities whose expertise covers the gamut of this important area in which psychiatrists, perhaps more than any other discipline in medicine, are intimately involved.

The delicate but vital area of professional standards, practices and relationships to which the Committee on Relations with Psychology devotes its attention needs little comment. The membership of this Association is familiar with these problems, the activities and efforts of its predecessor Committees and the policy positions taken by this Association in the recent and more distant past.

In its currently constituted form the Committee is doing yeoman work in an effort to arrive at mutually agreed and acceptable positions which will better define our relations with the national association which represents our colleagues in psychology.

These areas of overlap among related professional disciplines require careful delineation and definition and the Committee is to be commended for its diligence, broad vision and tact.

The Committee on Psychiatry and Social Work (you will note a change in the name of this Committee), feels, with Council, that this change recognizes more accurately the developments which have taken place in social work itself as well as defines more precisely the increasing scope of the Committee's concern. In testament of this, the Committee has established a series of liaisons with the Council on Social Work Education, the American Sociological Association, the American Probation and Parole Officers Association as well as maintained the established relationships it has enjoyed with the national associations representative of psychiatric social service workers.

Here too, the problems of defined roles and responsibilities, the scope of individual and collaborative undertakings and their many derivative aspects require the expenditure of much time and effort for which the Committee deserves our sincere thanks.

The Report of the Joint Commission encompassing its recommendations only serves to highlight the task of the Committee on Standards and Policies of Hospitals and Clinics concerned as it is with studies leading to a reformulation of acceptable standards and patterns of staffing and operation in treatment facilities for the mentally ill and the mentally retarded. Necessarily this work requires both extensive and continuing study to develop a qualitative evaluation of service rather than a qualitative measurement of operations which up to now has been the gauge for judgment.

This undertaking is also collaborative in its scope as are many of the related functions of the Committee and therefore extensive liaison activities are among its other duties. The range of responsibility for a definition of hospital bed ratio on the one hand to the care and disposition of records on the other give some idea of the ramifications of this Committee's deliberations.

The burgeoning of private psychiatric practice in recent years is reflected in the composition and agenda of the Committee on Private Practice. Office practice, that conducted in private hospitals as well as practice in general hospitals are areas within its purview.

The troublesome area of health insurance provisions for psychiatric care of all grades and levels has been a pressing concern of this Committee. To this end they have undertaken a series of studies with knowledgeable persons and representatives of other groups, agencies and corporations involved similarly. They serve as consultants and as a reference committee for the resolution of many of the trying issues which grow out of the use and abuse of psychiatric health insurance programs.

Howard P. Rome, M.D.,
Chairman.

NEWS AND NOTES

WORLD PSYCHIATRIC ASSOCIATION.—The first World Congress of Psychiatry was held in Paris in 1950, the second in Zurich in 1957, and the third in Montreal in 1961. In between meetings an international body for the organization of world congresses of psychiatry was charged with planning the assemblage. At the last meeting in Montreal, Canada, it was decided to change this organization to the World Psychiatric Association. This was agreed to unanimously by the 40 representatives of the various countries. The international committee, elected by the General Assembly, is made up of :

H. Barahona Fernandes (Portugal) ; D. Blain (U. S. A.) ; M. Bleuler (Switzerland) ; F. J. Braceland (U.S.A.) ; H. Burger-Prinz (Germany) ; J. A. Bustamente O'Leary (Cuba) ; D. E. Cameron (Canada) ; J. Delay (France) ; H. Delgado (Peru) ; H. Ey (France) ; R. H. Felix (U. S. A.) ; M. Gozzano (Italy) ; S. Hayashi (Japan) ; H. Hoff (Austria) ; A. Jus (Poland) ; G. Langfeldt (Norway) ; J. J. Lopez Ibor (Spain) ; W. Overholser (U. S. A.) ; A. C. Pacheco Silva (Brazil) ; J. G. Prick (Holland) ; W. Sargant (Great Britain) ; C. A. Seguin (Peru) ; P. Sivadon (France) ; E. Stromgreen (Denmark) ; and J. Zutt (Germany).

The officers of the World Psychiatric Association are :

President : D. E. Cameron (Canada)
Vice-President : F. J. Braceland (U. S. A.)
General Secretary : H. Ey (France)
Assistant Secretaries : W. Sargant (Great Britain) and J. J. Lopez Ibor (Spain)
Treasurer : P. Sivadon (France)

A special meeting of the General Assembly will be held in 1962 in Geneva in order to transact the business of this organization and plan the next World Congress. The offices of the World Psychiatric Association will be located in Geneva, Switzerland.

AMERICAN ELECTROENCEPHALOGRAPHIC SOCIETY.—The newly elected officers of the American Electroencephalographic Society, elected at the June 1961 meeting in Atlantic

City : Charles E. Henry, Hartford Connecticut, President ; Cosimo Ajmone-Marsan, Bethesda, Maryland, President-Elect ; Kenneth A. Kooi, Ann Arbor, Michigan, Secretary ; Isadore S. Zfass, Richmond, Virginia, Treasurer.

HENRY POLLAK MEMORIAL LECTURES.—Monroe Eisner, president of Monmouth Medical Center, Long Branch, N. J. has announced the inauguration of the Henry Pollak Memorial Lectures which this year will bring to this country Dr. Lipot Szondi of Zurich, founder of the International Congress for the Study of Schicksal Psychologie (analysis of destiny).

The lecture series is underwritten by Maurice Pollak of West Long Branch, N. J., in memory of his father, the late Henry Pollak. The Pollak Foundation is also the source of funds which established and helps to maintain the Pollak Clinic, the community mental hygiene service of the Monmouth Medical Center of which Milton E. Kirkpatrick, M.D., is director. Present plans call for Dr. Szondi to spend the week of November 3 in the United States during which time he will present 3 all-day seminars at the Pollak Clinic, 1 lecture at Princeton University and 1 lecture in New York City.

RESEARCH TRAINING IN PSYCHIATRY.—A 2-year program of research training in psychiatry leading to the degree of Doctor of Medical Science is available at the State University of New York Downstate Medical Center. It is open to M.D.s who have completed 3 years residency training. Candidates who have completed 2 years will also be accepted : the final year of residency to be taken at the psychiatric division of Kings County Hospital concurrently with the research course. A broad interdisciplinary faculty will conduct the courses and supervise the work of candidates. Extensive clinical and laboratory facilities are available.

Each candidate accepted will be granted

a fellowship of \$6,000 for the first post-residency year and \$7,000 for the second. These fellowships may be supplemented by stipends in special cases. Three-year candidates will receive \$7,100 for the final residency year.

Applications for the academic year beginning September, 1962 should be submitted before February 1, 1962. For information write to: Office of Admissions, Downstate Medical Center, 450 Clarkson Avenue, Brooklyn 3, New York.

DR. DANIELS HONORED.—On May 19, 1961, The Association for Psychoanalytic Medicine in conjunction with the Columbia University Psychoanalytic Clinic and its Alumni Association tendered a dinner in honor of Dr. George E. Daniels, Retiring Director of the Columbia University Psychoanalytic Clinic. Among the distinguished guests paying tribute to Dr. Daniels were: Dr. H. Houston Merritt, Dean of the Columbia University College of Physicians and Surgeons; Dr. Carl Binger; Dr. Nolan D. C. Lewis; Dr. Sandor Rado.

The Psychoanalytic Clinic's new Director is Dr. George S. Goldman.

AMERICAN ASSOCIATION OF NEUROPATHOLOGISTS.—At the 36th annual meeting of the American Association of Neuropathologists, the following members were elected to serve as officers for the current year: David Cowen, M.D., New York, N. Y., President; Leon Roizin, M.D., New York, N. Y., President-elect; Angel Pentschew, M.D., Baltimore, Maryland, Vice-President; Irwin Feigin, M.D., New York, N. Y., Secretary-Treasurer; Humberto Cravioto, M.D., Mexico D.F., Mexico, Assistant Secretary-Treasurer.

DR. APPEL HONORED.—The Department of Psychiatry of the University of Pennsylvania honored Dr. Kenneth E. Appel, chairman of the department and professor of psychiatry, at a reception, June 23, at the Overbrook Golf Club, Bryn Mawr, Pa.

Dr. Appel, past president of the Ameri-

can Psychiatric Association has completed his 31st year on the School of Medicine faculty. The new laboratory for research in psychiatry was dedicated to Dr. Appel in September 1960.

He is president of the national Joint Commission on Mental Illness and Health, established by Congress in 1955 and financed with a grant of \$1.5 million from the National Institute of Mental Health to survey the nation's resources for combatting mental illness. The 11th and final volume of the Commission's report was published this spring.

THE DAVID COLE WILSON LECTURE.—The 3rd David Wilson lecture at the University of Virginia was given at Charlottesville, April 21, 1961 by Dr. William B. Terhune, Medical Director, the Silver Hill Foundation, New Canaan, Connecticut. The subject of Dr. Terhune's lecture was The Treatment of the Phobic Patient.

The lecture proper was preceded by a delightful and fully merited tribute to Dr. Wilson.

THE SOCIETY FOR THE SCIENTIFIC STUDY OF SEX.—The 4th annual meeting of the Society will be held at 9:30 a.m., November 4, 1961, in the Barbizon Plaza Hotel, 108 Central Park South, New York City.

The topic for the morning session is "Sex and Aging." Discussants: Dr. Harry Benjamin, Dr. Lissy F. Jarvik, Dr. Joseph T. Freeman, Mrs. Donald Armstrong. Chairman: Dr. Hugo G. Beigel.

The topic for the afternoon session is "Sex Factors in Schizophrenia." Discussants: Dr. Bernard C. Glueck, Jr., Dr. Jules D. Holzberg, Dr. Lothar B. Kalinowsky, Dr. Sandor Rado. Chairman: Dr. Franz J. Kallmann.

THE NEUROSURGICAL SOCIETY OF CHILE.—Officers of the Society for the period 1961-62 are: President, Dr. Mario Contreras V.; Elected President, Dr. Juan R. Olivares; General Secretary-Treasurer, Dr. Juan Fierro M.; Directors, Dr. Reinaldo Poblete G., and Dr. Manuel Donoso C.

NOTICE TO DIPLOMATES OF THE AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY, INC.—The American Board of Psychiatry and Neurology, Inc. requests each diplomate to maintain his current mailing address and current professional appointment on file in the Executive Office. If your address and professional appointment have changed since the date of your certification, please forward such information to: American Board of Psychiatry and Neurology, Inc., 102-110 Second Ave. N.W., Rochester, Minn.

Because of the ever increasing inquiries addressed to the Board, it has become essential to maintain an up-to-date address file on all diplomates.

David A. Boyd, Jr., M.D.,
Executive Secretary-Treasurer.

LEGISLATION AFFECTING MENTAL HEALTH PROGRAMS IN THE SOUTHERN STATES.—The Southern Regional Education Board reports on state legislation at the 1961 sessions of the legislature in 7 of the 13 SREB states that hold legislative sessions during 1961, dealing with mental health.

Arkansas: Proposed bond issue, \$16 million for new buildings at State Hospital and Children's Colony. . . . Operating fund for Children's Colony doubled for coming biennium. . . . Child guidance clinic established at University Medical Center to diagnose minimal brain damage.

Georgia: Increased appropriations for Milledgeville State Hospital and Gracewood State School. . . . Bill on determining possible increase patient-pay revenue.

Louisiana: Appropriations increased for all mental health services, with special attention to exceptional children. . . . Evaluation center for mentally retarded to be built in New Orleans, and research and rehabilitation center to be established.

South Carolina: Appropriations increased for mental health program. . . . Consultant in mental retardation added to Mental Health Commission. . . . Community health services plan enables counties to participate in mental health services on matching funds basis. . . . Psychiatric residency for South Carolina State Hospital.

Tennessee: Appropriations for mental health activities increased 23% for next biennium. . . . NIMH, Peabody College and Tennessee-Kentucky Mental Health Departments cooperate in pilot program in training of "emotionally" disturbed children. . . . New intensive treatment centers in Chattanooga and Memphis, the latter to be teaching hospital for University of Tennessee Medical School. . . . \$2½ million authorized from treasury surplus for improving mental health facilities.

West Virginia: New training center for psychiatric nursing at Huntington State Hospital. . . . Barboursville State Hospital converted to alcoholic treatment center. . . . Training school for retarded children opened to blind and deaf patients. . . . Operations appropriations for all institutions increased.

Report on the other 6 SREB states to follow when their legislative sessions have adjourned.

ENCYCLOPEDIA OF THE SOCIAL SCIENCES.—Announcement has been made that work on a new edition of this Encyclopedia has begun under the editorial direction of Bert F. Hoselitz. The plans call for an edition of 12 to 15 volumes with a total of 6 to 7 million words. Simultaneous publication of the entire work is tentatively scheduled for 1965.

The Encyclopedia will encompass the work in anthropology, economics, political science, psychology, and sociology as well as related material in social history, education, business administration, linguistics, law, and medicine including psychiatry.

The work will be under the guidance of an editorial board of social scientists from many nations under the chairmanship of W. Allen Wallis, Dean of the Graduate School of Business, University of Chicago, with consultants from all relevant fields.

The office of the Encyclopedia is at 5836 Greenwood Ave., Chicago 37, Ill.

NEW JERSEY PSYCHOANALYTIC ASSOCIATION.—The following physicians were elected to office at the annual meeting of the Association: John E. Hughes, M.D., East Or-

ange, N. J., President; Samuel A. Weiss, M.D., East Orange, N. J., Vice-President; Benedict J. Bernstein, M.D., Maplewood, N. J., Secretary; Howard Schlossman, M.D., Englewood, N. J., Treasurer; Herman Shlionski, M.D., Montclair, N. J., Council Representative; George Zavitzianos, M.D., Tenafly, N. J., Alternate Council Representative.

MEDICAL HYPNOSIS.—A graduate course in medical hypnosis is offered to physicians and dentists by the University of Pennsylvania Graduate School of Medicine, Department of Neurology and Psychiatry, beginning October 4, 1961. The course meets recommendations made by the American Medical Association's Committee on Hypnosis.

The course will be given at the Institute of the Pennsylvania Hospital, 111 North 49th St., Philadelphia, under the direction of Lauren H. Smith, M.D., Professor and Chairman of Psychiatry, Department of Neurology and Psychiatry, Graduate School of Medicine and Physician-in-Chief, Institute of the Pennsylvania Hospital. Enrollment is limited to 24. Tuition \$375.

OPEN WARDS—NEW YORK STATE HOSPITALS.—Two institutions under the New York

State Department of Mental Hygiene have achieved 100% open ward policy. They are St. Lawrence State Hospital and Syracuse Psychiatric Hospital.

Other institutions in the state, more than 90% open are: Hudson River State Hospital (92), Newark State Hospital (94), and Syracuse State School (91).

SOUTHERN PSYCHIATRIC ASSOCIATION.—The 1961 annual meeting of the Southern Psychiatric Association will be held in New Orleans at the new Royal Orleans Hotel Oct. 1, 2, 3.

The registration fee, \$15, will entitle members to the following: cocktail party and entertainment Sunday night; cocktail party, banquet and dance Monday night.

Dr. John Bick is in charge of the scientific program and Dr. Kenneth Ritter is chairman of the program committee. The nominating committee, Dr. Dexter Bullard chairman, will nominate the following slate of officers for 1961-62:

President—Titus Harris, M.D.

President-Elect—Richard Proctor, M.D.

1st Vice-President—Robert Webb, M.D.

2nd Vice-President—William Reese, M.D.

Secretary-Treasurer—Sullivan Bedell, M.D.

Board of Regents—Levin Magruder, M.D.

COMPLEMENTARY

We are foolish, and without excuse foolish, in speaking of the superiority of one sex to the other, as if they could be compared in similar things! Each has what the other has not; each completes the other; they are in nothing alike; and the happiness and perfection of both depend on each asking and receiving from the other what the other alone can give.

—JOHN RUSKIN

BOOK REVIEWS

PSYCHIATRIE DER GEGENWART—FORSCHUNG UND PRAXIS. Band 2 Klinische Psychiatrie. Edited by H. W. Gruhle, R. Jung, W. Mayer-Gross and M. Mueller. (Berlin and Heidelberg: Springer-Verlag, 1960, pp. 1229, 146 ill.)

This is the second of three volumes destined to give a picture of present-day psychiatry. The volume deals only with clinical psychiatry. The presentations, appreciations and criticisms move from the still so-called "endogenous psychoses" over psychopathies, neuroses, addictions, organic psychoses and brain diseases to psychiatry of the child, adolescent, and old people. Mayer-Gross has written a short succinct introduction. His editorial achievement is highly commendable.

Many or even most of the authors' names are as good as unknown in this country. To enumerate all of them with all their merits and demerits would bore our readers. However one and the other must be mentioned at least, if only to attract attention to their names and work. There is Wyrsch with a crisp chapter on schizophrenia the treatment of which both Max Müller and Christian Müller discuss exhaustively in an extra chapter. The manic-depressive psychoses are presented by Weitbrecht, a clinician who, rooting in the biological aspect of our field has an especially fine fingertip feeling for a philosophical approach. His chapter is followed by the therapeutic one done by Hans-Hermann Meyer who remains refreshingly critical. The symptomatic psychoses are dealt with in a structural manner with gestalt psychological leanings by Klaus Conrad. Weitbrecht and Conrad impress this reviewer particularly since they bring new ideas into an area in which some people think no new crops can be harvested. Scheid reports on a variety of disturbances in infectious and tropical diseases about which little or even nothing was known before. He also sketches the treatment of neurolues. The outstanding institution for epileptics in Bethel (near Bielefeld) is the inexhaustible source of two thorough chapters by Schorsch on clinic and research, and Dreyer on treatment of the epileptic diseases. From Waverley, Massachusetts, comes a most welcome contribution on the oligophrenias by master Benda himself.

Stutte gives a picture of the serious and less serious disturbances in children and youngsters. Ruffin takes pains to distinguish between normal aging and the un blessings of senility.

All in all, this is a book written by persons who know their business, who have a mature attitude toward theory and practice. It should be emphasized that in the German-speaking parts of Europe¹ the interest in psychotherapy has definitely increased; one can say that in this direction the influence of U. S. A. psychiatry is unmistakable. Psychoanalysis does not and never did play the role it did and partly still does play in this country. Perhaps the more theoretical training and performing withholds these outbursts of therapeutic enthusiasm which we are witnessing in our country once in awhile. Of course—and this is of more than psychiatric significance—the European attitude in general has taken on a more pessimistic streak. Whatever the degree of optimism and pessimism in respect to psychiatric treatment may be on either side of the Atlantic, the possibility of a good, mutual understanding is higher than ever before. In a sense this is implied in a remark made by Weitbrecht (p. 78): One cannot say that Kraepelin's system was everywhere accepted and kept in use without antagonism. Yet wherever there is any scientific psychiatry, one talks about manic-depressive and schizophrenic psychoses. Kraepelin's classical positions are so well known that one can come to some agreement as to what kind or psychoses one is discussing notwithstanding the most various nosologic hypotheses.

EUGEN KAHN, M.D.,
Houston, Tex.

THE JEFFERSON-DUNGLISON LETTERS. Edited by John M. Dorsey. (Charlottesville, Va.: University of Virginia Press, 1960, pp. 120, portrait.)

There are presented in this book for the first time in print the letters between Thomas Jefferson and his physician, Dr. Robley Dunglison, during a year ending just short of 3 months before Jefferson's death. The letters have to do with Jefferson's failing health and the University of Virginia that he had just founded (opened March 7, 1825) at Charlottesville and of which he was Rector.

Dr. Dorsey's annotations throughout add much to the understanding of this series of letters. The Editor has rendered a very real service in bringing this correspondence together and producing this valuable document.

¹ There are 8 Swiss authors among the 22 contributors to this volume.

Jefferson had the same high ambitions as to the quality of the teaching staff of his university and the medical faculty connected with it as Johns Hopkins, 50 years later, prescribed to his trustees for the medical school he proposed to establish. For the University of Virginia Jefferson had written, "We have determined to receive no one who is not of the first order of science in his line; and as such in every branch cannot be obtained with us, we propose to seek some of them at least in the countries ahead of us in science, and preferably in Great Britain, the land of our own language, habits and manners."

Robley Dunglison was an import from London. Of him, as Dorsey notes, Osler said, "Dunglison has all the wisdom of his day combined with a colossal industry." He became professor of anatomy and medicine and eventually chairman of the faculty of medicine at the University of Virginia. Later on he was invited to Philadelphia where he was made professor of the Institutes of Medicine at Jefferson Medical College. He authored several medical texts, including his highly regarded textbook *Human Physiology*. He has been called the "Father of American Physiology." He is perhaps best remembered by his famous medical dictionary, the first edition of which came out while he was at Charlottesville. The Dunglison Medical Dictionary was a standard reference work through 23 editions.

An interesting debate between Jefferson and his physician occupies several of the letters in this book, couched in the exquisite language of gentlemen of the time, concerning payment for the doctor's services. The patient continued insisting and the doctor continued to refuse.

As the spring of 1826 drew on Jefferson was fully aware that the end was near. Even 7 months before his death he had spoken of "the fragment of life remaining to me." During the evening of July 3, arousing himself momentarily and seeing his faithful doctor at his bedside he asked, "Is it the Fourth?" Dunglison replied, "It soon will be." And on the morrow, while everywhere the 50th anniversary of the Declaration of Independence was being celebrated, about midday its author died.

C. B. F.

THE DAY HOSPITAL MOVEMENT IN GREAT BRITAIN. By James Farndale. (New York: Pergamon Press, 1961, pp. 430. \$15.00.)

"Part-time hospitalisation" is now an important means of psychiatric treatment, and is the product of a number of forces, both medical and social.

Effective treatment exists for most acute

illnesses in the younger age groups, and can often be given outside hospital. On the other hand, there are enormous problems of chronic illness in the older groups, which are unlikely to respond to curative measures, but which may need intermittent help over a long period. At the same time, complex modern treatment and rising living standards have caused an alarming rise in the costs of hospital care, and an increasing deficit of nursing and ancillary staff.

In answer to these developments, it seems necessary to give up the existing rigid conceptions of inpatient and outpatient treatment. From this point of view, there are many patients who do not have to accept board and lodging in hospital, simply because they are undergoing investigation or treatment there. It would also seem essential to break down the segregation between medical care in hospital and that outside.

All these factors apply, *par excellence*, to the problems of psychiatric illness, where, as Cameron has pointed out, treatment is not simply the mechanical application of specific cures, but a process of modifying behaviour. This process requires more than the conventional facilities of a hospital. It demands a continuous series of treatment settings, all of which are interdependent, and all in close touch with the community.

Many of these facilities will necessarily be "part-time," and one of the most useful of them is the day hospital, where services can be tailored to the needs of every individual patient. There has been much discussion on this subject in recent years, but some has been highly speculative, and some merely wishful thinking.

In contrast, Mr. Farndale's book is an admirably objective record of what actually exists in Great Britain, in the field of day care. As a hospital administrator, he set out to discover what facilities of this sort were available, in 1959, for psychiatric and geriatric patients. He visited over 60 hospitals and centres, and describes what he found there in exhaustive detail.

This trend of day care is shown to have erupted in widely differing forms throughout the country. Though there is national planning of the medical services, local initiative and individual personalities still seem to be decisive in creating these units. There is every stage of development, from an independent day hospital with separate staff and services, to informal arrangements for patients to spend the day at the occupational therapy department of a local hospital.

The 1,500 psychiatric day patients, who were attending at this time, form a very small number, in comparison with the 200,000 hospital beds for mental illness and subnormality, or the vast numbers of outpatients. However, it is clear that these day facilities are widely appreciated, and that large-scale expansion is planned for them.

It was premature at this stage to make predictions about reductions in hospital beds, but Farndale points out that by no means all day patients would otherwise be candidates for admission. To some extent, they form a "new clientele"—which is one equally meriting treatment.

He is well qualified to discuss the important financial implications of day treatment—though in Britain, these are not the immediate concern of the patient. There seems to be opportunity for some capital saving, in providing day places rather than inpatient beds—the cost is probably less than a third. However, comparison of the costs per patient in the two settings is more difficult, since the standards of treatment provided may be entirely different. This discussion underlines the unsatisfactory nature of hospital costing in psychiatry on a weekly basis, rather than that of a "patient-illness."

Farndale's conclusion is that, if additional money is to be spent on improving mental health services, the provision of more day hospitals would be one of the most economical and socially satisfactory ways of achieving the object. This seems fully justified by the evidence provided.

This book is not uniformly satisfactory, particularly as the medical aspects have to be reproduced at second-hand, and psychiatrists will certainly have more to say on the question. The style does not encourage easy reading and some of the profuse illustrations are of rather doubtful relevance. However, all those who are concerned with the operation or planning of day hospitals will find this an invaluable work of reference.

HUGH FREEMAN, B.M., D.P.M.,
Littlemore Hospital, Oxford, England.

CULTURE IN HISTORY: ESSAYS IN HONOR OF PAUL RADIN. Edited by Stanley Diamond. (New York: Published for Brandeis University by Columbia University Press, 1960, pp. 1014. \$15.00.)

Paul Radin (1883-1959) was one of the most original and formative influences in American anthropology. This *Festschrift* in his honor contains 54 contributions, far too numerous to list by author and title, but covering the whole range of Radin's interests. To summarize the

common theme of these contributions is not difficult, for almost all of them are characterized by an interest in the human mind at work, and hence will be of particular interest to readers of this Journal. This is not an ordinary *Festschrift*, it is an extraordinary one, dedicated to the memory of a great man and a distinguished teacher who, although he did not work well in harness, as a free spirit helped to free the spirit of others. Radin died shortly before he could receive this volume in his honor. It will always remain a testimony to the humanizing influence he exercised in his chosen field. His own writings, happily, grow in stature and in appreciation with the progress of time. This, perhaps, more than anything else indicates the true measure of the man.

ASHLEY MONTAGU, Ph.D.,
Princeton, N. J.

THE HEALTHY CHILD. Edited by Harold C. Stuart and Dange G. Prugh. (Cambridge: Harvard University Press, 1960, pp. 507. \$10.00.)

This excellent book is written by 22 experts who provide conceptual background material for professional participants in health, psychological, social and educational services for children. Every phase of growth and development is covered, and the purpose of the book to increase the application of general principles is well realized in a highly readable text. There is a valuable group of section references and notes at the end of the book, and an index.

ASHLEY MONTAGU, Ph.D.,
Princeton, N. J.

THERAPEUTISCHE FORTSCHRITTE IN DER NEUROLOGIE UND PSYCHIATRIE. Edited by Hans Hoff. (Vienna, Austria: Urban & Schwarzenberg, 1960, pp. 510. Schilling 318,— or DM 53.—.)

With the collaboration of some 34 scientists, the author (who heads the department of psychiatry at the University of Vienna and whose monumental work, *Lehrbuch der Psychiatrie*, was previously discussed here) primarily offers the reader clinical and dynamic evidence of the close relationship between neurology and psychiatry. This, at first thought, may not sound new. However, in practice, there are probably few readers who would not agree with the author that neurologists and psychiatrists do not actually have the close relationship that one would expect; both "specialties" are even completely separated in most clinics and hospitals. The book is divided, intentionally and not arbitrarily, into two logical parts, namely Neurology, and Psychiatry. However, most of the

contributions under Neurology are written by psychiatrists, and most of the contributions under Psychiatry are written by neurologists. That alone should give food for thought here and abroad! Some chapters in both parts are written by the same author, such as those by Hans Hoff on the neuropsychological basis of modern neurology in the first part, and those on the progress in psychosurgery in the second part. Each contribution is skillfully edited and supplemented with lengthy appendices of bibliography from both hemispheres!

HANS A. ILLING, Ph.D.,
Los Angeles, Calif.

PSYCHIATRY: DESCRIPTIVE AND DYNAMIC. By Jackson A. Smith. (Baltimore: The Williams & Wilkins Company, 1960, pp. 342. \$7.00.)

In the preface the author states: "The aim of this book is to describe concisely the various syndromes seen in psychiatric patients and to make these syndromes recognizable to student and physician alike. . . The prevailing dynamic concepts are included, as well as a brief review of their origins. Theoretical differences between the founders of different schools of psychiatry are mentioned."

Chapter 2 deals with Schools of Psychiatry and has interesting accounts of Jung, Adler, Ferenczi, H. S. Sullivan, Karen Horney and existential analysis. Sigmund Freud does not appear nor does Adolf Meyer. Charcot, Kraepelin, Bleuler, and Janet are given short write-ups in Chapter 1, "History of Psychiatry," which presumably explains their omission under "Schools of Psychiatry." With the exception of existential analysis, schools of psychiatry apparently are only those that are commonly regarded as Freudian or neo-Freudian.

Chapter 3 is labeled "Psychodynamics" and it is stated, "This material generally follows the concepts defined by Freud. Where the theories of others are included, the author's name is given." This chapter contains 29 pages and seems to be a fairly good but brief presentation of Freud's view.

It is difficult to assess this volume. In general it is clearly and simply written and some parts of it are excellent. Apparently the author feels that psychodynamics is adequately covered by Freud's theories. The reviewer finds it difficult to understand how an American textbook could be written with chapters on "History of Psychiatry" and "Schools of Psychiatry" which only mentions Adolf Meyer briefly in the chapter on "Affective Reactions," stating that he suggested that the term melancholia be abandoned in favor of depression, and that

further distinction could be made in accordance with the intrinsic nature of the depression. Under "Schizophrenic Reactions" there is one page devoted to some of Meyer's ideas.

It is not clear for what group this book is written. It is too brief and has too much of importance omitted to serve as a textbook in medical schools. It does not seem that this book will be particularly valuable to the psychoanalysts as the material given is very limited and contains nothing new. It is perhaps most fitted for popular reading because of its simple formulations and the ease with which it is understood.

KARL M. BOWMAN, M.D.,
San Francisco, Calif.

JAHRBUCH DER PSYCHOANALYSE. Beitrage zur Theorie und Praxis. Vol. I. Edited by K. Draeger, H. E. Richter, G. Scheunert, and E. Seeger. (Cologne, Germany: Westdeutscher Verlag, 1960, pp. 297. DM 25.—.)

The Preface was written by Anna Freud in London, as a send-off for the *Wiederaufnahme* of the Annual Proceedings of Psychoanalysis and the *Wiedererstehen* of the psychoanalytic movement in Germany. However, many of the contributors seem to this reviewer to suggest the analogy of carrying coal to Newcastle: Karl Menninger writes on "Regulatory Devices of the Ego under Major Stress," now translated into German from the *International J. Psychoanalysis*, as "Ich-Veraenderungen"; or Michael Balint (London) has translated a paper, originally presented to the Inaugural Meeting of the Pittsburgh Psychoanalytic Society, as well as subsequently at Society Meetings in London, Montreal, New York, and Washington 1959/1960, entitled *Primarer Narzissmus und Primare Liebe* (Primary Narcissism and Primary Love). There are also papers by Therese Benedek (New York) on *Elternschaft als Entwicklungsphase* (Parenthood as a Developmental Phase), discussing Freud's libido-theory, J. Lampl-De Groot on "Depression and Aggression," A. Reich (New York) on "Comments about Counter-transference," Erich Simenauer (South Africa) on "Psychoanalysis and Surgery"; or Paul Parin's "Counter-transference and its various forms of Resistance." While the *Jahrbuch* makes its first appearance and contains valuable contributions, its indices are poor or non-existent, but it can be hoped that subsequent Proceedings will contain more "home-grown" products. But a new "baby" is always welcome!

HANS A. ILLING, Ph.D.,
Los Angeles, Calif.

PSYCHIATRY AND LAW:
USE AND ABUSE OF PSYCHIATRY IN A MURDER CASE¹

FREDERICK WISEMAN²

The murder case I shall discuss illustrates rather dramatically many of the current problems in the inter-disciplinary field of psychiatry and law. As you read this case study I would like you to consider 3 principal points: 1. Psychiatric expert testimony is too complex, both emotionally and intellectually for a jury and judge to understand, accept and use to make a just disposition of a particular case; 2. The technical phrasing of the legal test of criminal responsibility is less important than the attitude toward crime represented by the test; 3. The courtroom confrontation of psychiatrists with different theoretical orientations leads only to chaos, disrespect and interference with the needs of the community and the disposition of the unique problem of each offender.

On April 20, 1957 at 1:15 p.m., Jim Cooper, a 23-year-old airplane mechanic from Roxbury, Mass., walked into the hallway of an apartment house in Brookline, Mass. His former fiancé Connie Gilman lived in the second floor apartment with her parents. Cooper stopped in the hall and released the safety latch on the Belgian automatic .38 in his pocket, climbed the stairs and rang the Gilman's bell. He took the gun out as Connie opened the door. She saw him standing waiting in the hallway with the gun in his right hand. Their eyes met. Cooper said to himself, "Jim, shoot, shoot." He couldn't pull the trigger. Connie slammed the door. Cooper shut his eyes and shot and shot, 9 times. He ran out of the house and after telling a policeman four times that he had committed murder finally

convinced the officer to take him to the Brookline Police Station. Later when asked by a detective whether he fired with intent to kill, Cooper said, "I fired to blow her fucking head off. How many times do you want me to tell you?" At another time he said, "After it happened, I didn't even seem to realize what it was—it didn't seem real, I never saw her actually get shot; I never seen the bullet enter her body; I said, 'This didn't really happen.' But I knew it did . . . I thought, 'Jim you must have killed her.' I didn't know, but I thought I must have. It just seemed to me that all my life I was bound to end up in the chair. If that was the way it was, that was the way it would be."

Cooper met Connie Gilman in 1949 when he was 16 and she 12. They became engaged in 1954 when Cooper was in the Air Force. Connie and Jim exchanged wedding rings and made plans to be married. However, as often as the plans were agreed on Connie changed them, frequently at her mother's insistence. She always said, "Yes," and then, "No." After Cooper's discharge from the Air Force in 1956 he went to work in California and the yes-no pattern continued. Finally, in April 1957 Cooper came to Boston determined to marry Connie or get his ring back. Connie and her mother were reluctant to return the ring. Cooper was later to describe his feelings at that moment saying:

I became very upset at that time. I recall Connie saying, "Jim you're all red." I didn't say anything. At that time I had the idea that it was an utterly hopeless and solutionless and impossible situation which I had become entangled in and that I wanted to kill Connie Gilman. I fought this emotion down, kissed her goodbye, walked out of the house. I said, "Jim, you better get drunk. You'd better get good and drunk, not just happy and sad, completely comatose." So I got in the Chevrolet that I had rented and drove to a bar somewhere in the vicinity of

¹ Read at the 117th annual meeting of The American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

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Kenmore Square. I went into the bar and had two shots of bourbon; took off my jacket. I remember I stared at some middle-aged women sitting there, staring directly at me. I felt, "Well, even that woman there doesn't even know you. She realizes what a big chump you are." And I thought of how Mrs. Gilman thought what a big chump I was, and how Connie either thought that or was using me. And I said, "This is the end." I went out to the car; I took my gun out of the glove compartment, put it in my jacket pocket, drove back to the house, parked the car. I got out of the car and started to cross the street and a number of ideas passed through my head. First, "I am going to kill her; I am going to put this gun right up against her forehead and pull the trigger and then I shall do the same for myself."

Second, the second was, "Jim this is foolish, there must be some kind of a solution. She said that she would get the ring out of the bank on Monday." And I thought, "Yes, she did." She also knew that my plane was leaving the airport at 7:00 on Monday morning and I would not be in Boston in time to get the ring.

And if she really wanted to give me the ring, she would have already done so. And if I waited until Monday, lost another day of work, she would probably give me some kind of stall or excuse again. And I then thought, "Jim, you don't really want to die, do you?" And I said, "No." And I said to myself, "But you are going to let them get away with it?" And I says, "No." I said, "Do you realize if you do this they will electrocute you?" And I said, "Yes."

And then I thought of my father. I do not know why, it just shot through my head for a minute. And I came to the conclusion that that was exactly what I deserved, and that it fitted in with the idea that I have always had, that I would never live to be 30 years old and that I had adopted the attitude while in the service: live fast, die young, and have a good-looking corpse. . . .

I suppose all of you are familiar with the legend of King Midas. If you recall, he was a man who, that everything he touched would turn to gold . . . let us say that my name is King Shitus.

These brief quotations will, I hope, give you some sense of the man who killed this girl.

In a period of 17 months Cooper was seen by nine psychiatrists and three psy-

chologists as well as a series of social workers representing various state agencies. The purpose of this paper is: 1. To discuss and evaluate the variety of purposes served by psychiatric expert testimony in the pre-trial, trial and post trial phases of this murder case; 2. To offer some general comments about present and proposed relationships between law and psychiatry.

PRE-TRIAL

The first contact between law and psychiatry occurred when by Court order Cooper was sent to the Bridgewater State Hospital for a 35-day observation period. He was returned to the jurisdiction of the Court and the examining psychiatrist wrote in his report to the judge,

No evidence has been elicited that he is insane. Memory, judgment and insight are intact and he is not deluded. It is the opinion of the staff that he is not insane and is responsible for his conduct. His return to Court for disposition is therefore recommended. Diagnosis: Without Psychosis-Emotional Instability.

The next step in the State's psychiatric assessment of Cooper was the Briggs Law examination. This now famous statute, passed in part to avoid a court-room battle of experts requires that an examination be conducted of an accused in capital cases, "with a view to determine his mental condition and the existence of any mental disease or defect which would affect his criminal responsibility." The Commissioner of Mental Health appointed two state hospital superintendents as the Briggs Law Examiners. Their findings, submitted on a form prepared by the State for this purpose, were meant apparently to contribute to the understanding of this man. They reported to the Commissioner:

Report To Department of Mental Health
(On mental examination of prisoner under Section 11A, Chapter 123, General Laws.)

Habits: Alcohol

Drugs: Use denied

Sex: No abnormality noted

Social Adaptability and Interest in Social Life:
Feels he is quite sociable and gets along well in general but quick tempered. Likes to attend beach parties, house parties, and dancing. Interested in modern music.

Psychiatric Findings :

Subject was cooperative to interview in general. He handled himself well and was aware of the seriousness of his situation and understood his legal rights. He was normally productive. No evidence of depression or other mood disturbance. No hallucinations or delusions elicited. No evidence of psychosis. Psychological tests show C.A. 23 years, M.A. 18 8/12 years, I.Q. 1.04. Subject is not insane or mentally deficient.

State Definitely Whether in the Opinion of the Examiner, the Prisoner is Suffering from Any Mental Disease or Defect which Would Affect His Criminal Responsibility :

In our opinion, the prisoner is not suffering from any mental disease or defect which would affect his criminal responsibility.

The effect of these State ordered psychiatric examinations was that Cooper was competent to be prosecuted as a normal murderer.

Cooper admitted the murder. Yet, by law, he had to plead "not guilty" once the State determined he was competent to stand trial. In Massachusetts the test of criminal responsibility is a combination of M'Naghten and Irresistible Impulse. The State-appointed defense counsel had to present evidence that Cooper did not "know the difference between right and wrong" and/or was not able to "resist the impulse to kill." This kind of a defense could only be made through psychiatric expert testimony. Cooper's counsel sought assistance from senior members of the Boston psychiatric community but was unable to successfully solicit their interest in the case. After considerable effort defense counsel succeeded in finding a psychologist and 2 young psychiatrists who were willing to serve as defense experts. The two psychiatrists saw Cooper and submitted written reports to defense counsel. One wrote :

I see no evidence that this patient is not aware now or was not aware at the time of the murder of the nature and consequences of his destructive acts. However, it is apparent that he has been suffering from a personality disorder characterized by a low tolerance to frustration and behavior which would bring about immediate gratification to his instinctual needs. This behavior has at times been antisocial in nature and the patient has felt little conscious remorse or guilt about these acts, especially

the recent murder of his girl friend. On the other hand, there is evidence that since age 9 he has been subject to a pathological drive to be punished for the accidental death of his father for which he has unconsciously, and sometimes consciously, felt responsible.

If this man had been brought to a psychiatrist at any time since . . . age 12 it would have been evident that he was definitely in need of psychiatric help.

Formal Diagnosis : Personality Disorder.

The defense psychiatrists unlike the Briggs Law Examiners included in their reports accounts of some of Cooper's feelings and experiences which, isolated from the rest of his life, provide some understanding of the emotional problems that led to the murder. Cooper's father died when the boy was 9. Mr. Cooper slipped on the ice chasing his son insisting he wear a warm cap on his way to Hebrew school. Cooper felt he killed his father. Afterwards, there were many self-defeating and destructive acts connected, in one way or another, with these feelings. As a 12-year-old he swallowed iodine rather than go to Hebrew school ; at 15, he was badly bruised when he insisted on fighting 5 boys who attacked him swinging garrison belt buckles. Also, at 15 a B-B pellet pierced his right eye when he and another boy were playing with a gun. In the Air Force a buddy saw him with a pistol pointed at his head and talked him out of the suicide attempt. In Boston on leave from the Air Force he fought with another of Connie's suitors and spent 2 weeks in hospital with a broken nose. As an Air Force mechanic Cooper felt guilty about the death of two pilots despite the fact that an Air Force investigation determined their death was due to pilot error rather than mechanical defect. Also, the defense psychiatrists pointed to another incident that tragically demonstrated Cooper's inability to handle his feelings. One time a stranger began to annoy a girl he was with, but Cooper, unable to tell the man to go away, contained his rage and anger until, bursting, he whacked the stranger over the head with an empty beer bottle.

The second defense psychiatrist confirmed his colleague's pre-trial diagnosis and wrote, "I do not believe he (Cooper) can be

labelled a psychotic." The defense psychiatrists were convinced that Cooper was an emotionally sick human being badly in need of psychiatric treatment and that the murder was a violent expression of his illness.

The defense counsel had to proceed with the trial knowing his client to be a very sick young man but aware that under the existing legal standards Cooper's behavior, the murder, of course, aside, was probably not sufficiently bizarre to qualify him for a M'Naghten acquittal.

TRIAL

A jury of men and women were asked to listen to the psychiatric assessments of Cooper and reach their decision on the issue of his "responsibility." This charade was built on the myth that the jury was capable of absorbing, understanding and acting on a complex psychiatric explanation of the murder as well as evaluating the differences in point of view revealed at trial.

The first defense psychiatrist testified that Cooper was suffering from a mental illness which he defined as, "an abnormal variation of a person's mood and abnormal variation of a person's thinking processes or an abnormal variation of a person's behavior." The judge excluded any testimony that Cooper had been in need of psychiatric help since age 12. In an effort to fit the "irresistible impulse" test requirements the psychiatrist testified, "that this man was in a state of great emotional tension, that he was obsessed with the need to obtain some decision from Connie Gilman . . . he was obsessed with either getting the ring back, or getting her to marry him, or getting her to give some definite opinion about their status."

In this adversary proceeding the State had to rebut this testimony and make its case that the murder was "premeditated," that Cooper knew "right" from "wrong" and that he did not commit the murder under the pressure of an irresistible impulse. The prosecuting attorney tried to lead the defense psychiatrist to these conclusions while simultaneously discrediting the direct testimony.

This defense psychiatrist had written in his report to defense counsel that, "At no

time did he (Cooper) express regret that her life had been interrupted." The State's Attorney reasoned that if Cooper did show regret then he would know that his act was "wrong" and therefore knew the difference between "right" and "wrong." He proceeded this way :

- Q. So I ask you, sir, in your opinion . . . was he or did he indicate in any way that he was sorry that he killed this girl.
- A. He did not say he was sorry he had killed this girl and he was expecting the electric chair.
- Q. Doctor. Can't you answer that question Yes or No ?
- A. I can only answer it on the basis of what I observed. I observed that . . .
- Q. What is your opinion doctor ? Was he or was he not sorry that he killed the girl ?
- A. My opinion is that he regretted killing the girl but somehow felt it was in the cards, that something like this was going to happen in his life, and that he had no control over it, and this is the way it was going to be, he was going to get the chair and here it comes.
- Q. So your answer is, doctor, that in your opinion from your examination of him he was sorry that he killed the girl ? That is true, isn't it ?
- A. I would say he was sorry but felt there was nothing he could do about it.
- Q. Doctor, are you trying to hedge on the answer ?
- A. I am trying to give you an accurate answer as to what I felt was going on in this man's mind.

The prosecuting attorney asked this witness to define personality disorder. The doctor replied in words probably only comprehensible to a person who already knew and was ready to accept a psychiatric explanation of behavior :

- A. Now, personality disorder, the identifying symptom in such a case is where someone handles their anxieties and their feelings which disturb them by action rather than having psychotic symptoms such as hallucinations, delusions, or having anxiety such as somebody who is—or phobias such as social fears and things of that kind, or is opposed to somebody who might have a disturbance of their mood in which they might be grossly euphoric or extreme depression.
- Q. Will you tell us what the personality dis-

order . . . that makes this chap mentally ill is ?

A. I feel that under the general category of personality disorder this man falls into really two types, two sub-types of personality disorder. These are : 1. Passive aggressive personality . . .

Q. Well, now stop right there. What does that mean ?

A. Passive aggressive personality refers to a type of individual whose behavior characteristically throughout their life reveals two main trends : one is a passive obstructionism ; two is overt aggressive uncontrolled outbursts. . . . Would you like me to give some examples from this case ?

Q. From this case, please, doctor.

A. I think you have heard very well described by the mother and by the sisters this man's attitude around the home. For instance, his mother would suggest that he do something and rather than tell her overtly that he would not do it, as a normal person would do, he simply went out and did something else.

Later in the cross-examination the doctor was asked :

Q. Well, now, by your statement, doctor, do you mean to tell us that this inner feeling and this problem, this deep-seated consciousness of guilt regarding the death of his father, was responsible for him going up, taking the gun out, going upstairs and killing this girl.

A. It played a great part, in my opinion, in his getting involved in an event for which he would obviously receive a great deal of punishment.

Q. Upon what theory do you base that, doctor ?

A. This is based on the common psychiatric technique of explaining a pattern of activity or a pattern of thought in the person's life by the type of events to which they were subjected, the types of stress, actual and traumatic events to which they were subjected in their younger years, and in this man's case this was an extremely traumatic event, as it would be in any child, sir.

The second defense psychiatrist supported his colleague's testimony and in an effort to span the separation between psychiatry and law testified that a, "personality disorder is characterized by impulsive ac-

tion of a very sudden onset in the particular individual concerned." Then, this confusing exchange on the meaning of the word "normal" took place. As you read this cross-examination please note the psychiatrist testifies that Cooper's behavior was consistent with his personality disorder but the prosecuting attorney tries to take this to mean that Cooper was "normal" as opposed to emotionally ill. The reference is to the beer bottle incident.

Q. Now, doctor, it is just a question of degree isn't it, because supposing we have the same set of facts and the man stands up and strikes this chap with a fist. Is he a man of personality disorder ?

A. I would say perhaps less, sir, on that particular symptom. I think there is a gradation, I agree with you, and I think people may push, people may hit, people may insult each other, may each look angry. There are all kinds of degrees, and I think where you draw the line and what you call pathological or what you call abnormal is a question of degree and one of opinion. I would consider for Cooper this was not an abnormal reaction.

Q. A normal reaction for him ?

A. For Cooper because he is a personality disorder.

Q. Would you say that was a normal action of his ?

A. I think he reacted in a typical fashion for him.

Q. Now, when you say pathological what do you mean, doctor ?

A. Abnormal . . .

Q. And what do you mean when you say abnormal ?

A. Symptomatic of mental disease.

The psychologist who tested Cooper with the Rorschach, Wechsler-Bellevue, Draw-A-Person and Thematic Apperception Tests also testified at the trial. The psychiatrists had told the jury many intimate details of Cooper's life. However, the psychologist talked of Cooper's feelings and fantasies in a complex but frank way acceptable to a case conference but perhaps inappropriate when addressed to unsophisticated jurors. On cross-examination the psychologist was asked to give illustrations of Cooper's response to the Rorschach Test. She read his response to one of the cards ;

Two mole-like creatures fighting over a blanket of cloth, trying to shoot at each other. Rays are coming out. The rays are hitting at each other and neutralizing out, and when the rays meet they form a bomb, fall into the bottom and create an uproar. These two pink colors are climbing and these rays are clashing in here and a bomb is creating this. The coloration suggests heat; it seems like two rays are hitting each other and interacting and combatting each other, generating this part and in turn producing this splitting action.

This exchange then took place :

Q. Well, will you tell us how many of these answers made you determine that he had, we will say, a depressed mood to begin with ?

A. I would say it depends on certain ratios in the scoring symbols, it just isn't done that way.

Q. Can you tell us, ma'am, how many symbols made you think he went to a high level and then became unstable, from a depressive state to an exhilarant state ?

A. I would say this depends—if I may—this is quite technical, but it would depend on what we call the CF ratios, which, the color response which have little form, if these are greater than the number of human movement responses, this is a sign of impulsivity. The degree of the number of shading responses and blacks and greys refer to the depressed sense. Again I insist I am oversimplifying. But this is the basis for coming to these conclusions.

A properly trained person might understand this explanation. A serious offer of this kind of material to a jury is farce.

The psychologist was then asked to continue her explanation of Cooper's sexual attitudes. The following testimony refers to such emotionally neutral subjects as murder, incest, impotence and sexual promiscuity. The psychologist testified :

A. His sexual problems have been touched on above but it seems necessary to point up again his anxiety about being inadequate as a male, and his attempt to seek substitute phallic symbols as some kind of compensation for his perceived superiority.

Q. Would you stop there ? Would you tell us what that means ?

A. Well, the first thing it says is that he has some doubts about his masculinity, about being powerful enough of a man, and one way of trying to deal with his feelings of

this sort is he is attracted to objects which are symbolic of masculinity and which he, therefore, is attracted to to compensate for these feelings.

Q. All right. If you will go on.

A. Thus, guns, rifles, big cars, weapons are perceived by him in very erotic, highly charged ways, and reflect among other things his attempt to assert himself as a powerful male, and protect himself from assault from others.

Q. Well, now, do I understand from that that the fact that he has a gun or that he might have a Cadillac or a big car, that that is the way to hide male impotency ?

A. That is the way to compensate for feelings of male masculine inferiority, the feelings of it.

Q. Would you say that people who have guns and that those that drive in big automobiles, that they all feel that they are impotent or they have male problems ?

A. I would not.

Later, in this cross-examination, the classical theme of incest was introduced :

Q. Will you read the last sentence ?

A. In this connection, too, there is evidence of a marked feminine identification, which is not surprising in the light of his anxiety over his incestuous wishes, and his image of masculinity as sadistic and destructive, which is too anxiety provoking for easy identification.

Q. Now, what does that mean ?

A. Well, the first thing means, and I say, "evidence of a marked feminine identification," I think that the young man who is brought up in a household of women does tend to identify, perhaps more with female-like values, characteristics and interests.

Q. Of course, isn't that a fact that anybody whose father died when he was young and had three sisters would be in exactly the same category ?

A. I would agree, "which is not surprising in light of his anxiety over his incestuous wishes."

Q. What are "incestuous wishes ?"

A. This comes from some Freudian theory about attitudes of young male children toward their mother.

Q. Well, now, where there are incestuous wishes, you are referring to incest, are you not ?

A. Not literally, no.

Q. I mean, that is the word, incestuous wishes. What do these two words mean, then, ma'am, incestuous wishes ?

A. Shall I tell you how we use it in psychiatry?

Q. Would you answer the question, please?

A. I would have to answer in that way.

Q. You may.

A. I have used the word so I must tell you how I have used it.

Q. Yes.

A. This refers to the kind of attachment that young sons have for their mother, in, oh, around 4 or 5 and 6 years of age, and this ties up with the mother in which the father is often seen as someone who gets in the way of spending all the time with the mother.

Q. So that has nothing to do with the word or with the thoughts of having incest, does it?

A. No, I didn't use it in that way.

Then in the form of, "If you knew—would that change your opinion?" questions, the State's Attorney proceeded to review Cooper's sexual experience. This line of questioning ended in the following colloquy:

Q. Assuming those facts, would that not change your opinion, as to the fact that he claimed or—your findings that he was inadequate as a male?

A. Not in the least because it is part of his whole pattern of denying his fear by doing the very thing he is afraid of.

Q. Would you explain that a little more.

A. Sure. I think it is like the child who whistles in the dark, who is terrified of jumping down from something and jumps down five times to prove that she is not afraid, and this is what I think is happening, this is what that kind of evidence would mean to me.

The Court: I don't get that. You mean the way to prove that you are inadequate sexually is to keep having sexual intercourse, or what?

The Witness: No. In order to keep proving that he is not inadequate to himself is to continue having sexual relations because...

The Court: Don't you think that would satisfy him that he was adequate?

The Witness: Well, unfortunately, I think that these things don't happen that way, that if the feeling is very deep within a person...

The Court: Have you had any personal experience?

The judge's reaction is after all only one of a number of possibilities, some of which

must have occurred to the jury. Suppose, for example, individual jurymen possessed guns, rifles, or big cars, might they fear a psychologist's similar verdict about them? They might know, for certain, that it couldn't be true for them. How, therefore, could it be true for Cooper? It is preposterous to presume that a jury is any more ready to accept and understand this kind of interpretation than any other unprepared individuals or group.

The State had to rebut this complex testimony. The State's theory was that Cooper was normal. The two psychiatrists who conducted the Briggs Law examination were called. The first, asked for his definition of psychosis, said, "Insanity, mental illness and mental disease." The defense psychiatrists had, it will be remembered, characterized personality disorder as a mental illness. The State psychiatrist then defined personality disorder in this crisp scientific language, "It means a variation in the behavior of the person from the usual behavior pattern." The prosecuting attorney then asked this simple question:

Q. Well, doctor, in relation to character disorder or personality disorder, is it your opinion as an expert that a person who has a personality disorder, does that person know the difference between right and wrong?

A. Yes.

The colloquy continued:

Q. Now I ask you specifically in relation to this defendant, doctor, what was your conclusion after receiving from him his history and the examination of him as to his insanity or being sane at the time you examined him?

A. I felt that he was perfectly sane and had not mental illness or a psychosis. His mood was normal. It wasn't depressed. It wasn't exhilarated. His memory was normal in every way. He had no delusions or hallucinations. His attitude with us was normal, cooperative, friendly. His intellectual capacity was tested and found to be normal.

Q. Now, doctor, I ask you, have you formed an opinion as a result of your examination as to what his condition was on the day of the crime, April 20th, this year, sir.

A. In my opinion he was perfectly sane at that time and had no mental illness.

Q. When you say he was perfectly sane, I ask you whether at that time, in your opinion, he knew the difference between right and wrong, doctor.

A. Yes, he did.

The other Briggs Law Examiner confirmed his colleague's testimony. The two Briggs Law experts testified that together they had done a mental status examination of Cooper during a single interview of one hour and ten minutes. In their court appearance one doctor testified that he knew the father died when Cooper was 9 but did not know the circumstances of death, the other said he did not recall asking whether the father was dead or alive. One testified that he knew of the gang beating, the other said he knew nothing of it. One testified that he knew of the fight over Connie which resulted in a broken nose and hospitalization, the other said he knew nothing of it. One testified that Cooper had told of the near-suicide attempt in the Air Force, the other said he knew nothing of it. One testified that he knew of Cooper's guilt over the death of the pilots, the other said he knew nothing of it.

This concluded the presentation of psychiatric expert testimony.

The judge charged the jury along the classic M'Naghten, Irresistible Impulse lines. Theoretically, this was meant to help the jury understand the psychiatric expert testimony and its relation to the tests of criminal responsibility. One way of estimating how much of the testimony the jury understood is to examine the degree of comprehension shown by this experienced jurist. In the course of his charge the judge reviewed the qualifications of the expert witnesses. The psychologist testified that she received a B.A. degree from Brooklyn College in 1945 and a Master's and Ph.D. in psychology from Cornell University. The judge in his charge said,

We had another witness who was not a doctor of medicine, but she has a Doctor's degree. I do not know whether it is in psychology or philosophy. But she is a doctor and has a Master's degree, and she has been out of college longer than the doctors. She got through college in 1948. Took up the study of psychology which is the study, of course, of the human mind.

In discussing the testimony of the second defense psychiatrist, the judge commented :

Dr. . . . said that the defendant is suffering from a severe mental disease and the particular disease that he is suffering from is a personality disorder. He gave—I think you recall, and if you don't why pay no attention to what I say—he gave a different meaning to personality disorder than some of the other doctors. He said, "Personality disorder is characterized by impulsive action of a very sudden onset in the particular individual concerned. There are many features of this particular illness which, if I may, I would like to read." But he was not allowed to read them, of course, because we were to listen to his testimony as to which he could be cross-examined, and not what somebody had written in a book, somebody of whom we know nothing at all. Now, of course, the fact that a person is highly emotional, suffers from a personality disorder, was defined by others as you would probably define it. A departure from the normal behavior pattern does not excuse a person for killing another person. But, as I have said, Dr. . . . used the words in a different sense and it is to his—and, of course, you consider the meaning he gave the words in considering his testimony—a personality disorder, he spoke of, as characterized by impulsive action of a very sudden onset in a particular individual—and if you give weight to that opinion, if you believe that, you may consider it of importance in determining whether the defendant there was suffering from an irresistible impulse. Whether he was under a compulsion to kill that he could not resist.

The judge had no difficulty in recounting the testimony of the State's psychiatrists for they had testified that Cooper was "perfectly sane." The judge, in summarising, quoted the testimony of one State expert :

He felt that he was perfectly sane and had no mental illness or psychosis. His mood was normal and he was not depressed and was not exhilarated ; his memory was normal in every way ; he had no delusions or hallucinations. And his attitude with us was normal, cooperative, friendly. His intellectual capacity was tested and found to be normal.

The fact that Cooper's motive for killing Connie Gilman was complex and obscure and probably difficult even for the psychiatrically-trained person to understand made

no difference. The jury was supreme. For as the judge said :

That question whether that mental disorder was insufficient to excuse him from crime or sufficient to excuse him from crime is not to be decided by expert witnesses, but is to be decided by you, getting any help you can from the expert witnesses and from what you yourselves have observed as the defendant testified.

When the judge concluded his charge, Cooper made a statement to the Court and jury saying, "It is my opinion that any decision other than guilt, guilty of murder in the first degree, with no recommendation for leniency, is a miscarriage of justice."

The jury, asked to correlate the testimony with the definition given in the instructions, found Cooper guilty of murder in the first degree and did not recommend leniency. The judge was obliged to sentence him to be electrocuted. After listening to the sentence, Cooper said, "Thank you."

POST TRIAL

There have been no executions in Massachusetts since 1947. After the conviction was affirmed by the Massachusetts Supreme Court, defense counsel, family and public petitioned the Governor to commute Cooper's sentence. Cooper, aware of the appeals on his behalf, wrote the Governor :

Now I do not ask for death in the form of punishment, but as mercy. Mercy in the guise of release from a life which is no longer honorable nor desirable. My wish is that you can put aside your moral regrets and do your duty, even as I have done mine.

In another letter to the Governor he wrote,

If I could but feel that I honestly regretted my actions, I would welcome the prospect of imprisonment and rehabilitation. However, while I do not lack the qualities of pity or compassion, I do not feel one iota of remorse for the crime I have committed. It is not the enormity of the crime itself, but the ease with which I justify it to myself that precludes the possibility of my ever returning to society again. Under these conditions, execution is the only logical conclusion.

At the Governor's request the Commissioner of Mental Health started a study of

the case to determine if Cooper was too sick to be executed. The State psychiatrists who conducted this examination had a theoretical orientation and personal training that was substantially similar to the defense psychiatrists. Five psychiatrists and one psychologist were involved in this post trial study of Cooper. Cooper was seen often by one or another of this group in the following 6 months. During this study period many reports were written to the Commissioner. One psychiatrist wrote :

Mr. Cooper is a pleasant, intelligent and responsive young man who shows no evidence of psychosis, nor does he show on first examination a sufficient degree of mental illness for me to recommend hospitalization (were he simply to walk into my office).

And further,

It is quite probable that once it is definite that he will not be executed the depression might deepen to the point of making a suicide attempt. . . . I do not think he should be killed, but at the moment at least, I cannot say that he is too "mentally ill" to be killed (whatever that means).

A State psychologist gave Cooper the standard psychological tests and concluded :

While on the surface this patient appears to be neurotic, his core problems and the defenses against them are psychotic in nature. His crime and his desire for destruction seem to be not a sudden eruption occurring in an otherwise normal person, but they seem to represent an attempted solution to a psychological conflict which had its beginnings in the early phases of childhood. Given his personality one might say that he had no choice but to act compulsively as he did.

The final report of this team to the Commissioner stated :

We find Mr. Cooper an interesting challenge in addition to being genuinely interested in him as a human being. Our impression is that he is quite treatable and might some day be a useful member of society. I hope we have the opportunity to continue working with him.

The Commissioner of Mental Health and the Commissioner of Correction each recommended commutation of sentence to life

imprisonment. When Cooper was told the Governor was about to approve their recommendations he hanged himself.

CONCLUSION

In the disposition of the case of this murderer the Law and the State turned to psychiatry for assistance for a variety of purposes. 1. The Court ordered a psychiatric examination to determine Cooper's competency to stand trial; 2. State-appointed psychiatrists conducted an examination under the Briggs Law to satisfy the State that Cooper was not suffering from any mental illness that affected his criminal responsibility; 3. Defense psychiatrists and a psychologist examined Cooper to prepare the only possible defense, "non-responsibility"; 4. The contradictory assessments of the competing psychiatrists were presented to judge and jury in the form of direct and cross-examination; 5. The jurymen on the basis of the judge's charge and their own sentiments and observations were meant to sift through the complexities and arrive at a decision; 6. The State, after conviction, turned once again to psychiatry to seek support for a decision to reverse the directive of the jury.

The result in this case would have been no different if the 9 psychiatrists and 3 psychologists had not been involved. Cooper would have been convicted and probably would have committed suicide.

If this case is at all typical of the current state of misunderstanding and confusion between law and psychiatry, as well as reflecting the dissension among psychiatrists, I seriously doubt the value of the psychiatrists' participation in any stage of the legal proceedings. I would not question the value of the psychiatrist to weed out the grossly disturbed offender in the pre-trial competency examination but why not let the law have its own archaic way with the rest.

In the Cooper case the State used one set of psychiatrists to prove that Cooper was "perfectly sane" and therefore "responsible" and the defense, other psychiatrists, to show that Cooper was sick and therefore "not responsible." The lay jury chose the testimony it could understand and which corresponded with their own sentiments and Cooper was convicted of a murder he ad-

mitted. The only flaw in this successful manipulation of psychiatric expertise was the State's ambivalence. Since there was much moral sentiment against capital punishment Cooper could not be executed and State proceeded to use its first team of psychiatrists to rationalize the decision not to execute.

The psychiatrists and psychologists used after trial had more in common professionally with the defense experts than they did with their colleagues who conducted the Briggs Law examination and testified at trial. If this group had done the pre-trial examinations and presented their testimony to the Court, Cooper might never have been convicted but rather received the treatment he obviously needed.

The Briggs Law examiners and the post-trial psychiatrists were all employees of the Department of Mental Health of the State. The defense experts were also paid by the State. Since Cooper had no money the State paid the defense psychiatrists \$350 each. The Briggs Law experts each received \$7 for their examination in addition to their regular salaries as state hospital superintendents.

While it is perhaps out of place for me as a lawyer to talk of rational Utopias I would like to suggest to you my alternative to some of the modish verbal formulas. I do not believe it is the particular technical phrasing of the test of criminal responsibility that is important. What is important is the feeling these words convey about the Court's attitude toward the offender. If the Durham test has any meaning it is the substitution of the feeling, "crime may be the result of sickness," for the feeling that, "crime is the result of conscious evil." If, however, psychiatrists feel that many crimes are motivated by mental illness the need for change is much greater than the call for a revised test of criminal responsibility. The explanation of a crime to a jury by a competent psychiatrist may be too complex both intellectually and emotionally for a jury to understand and act on. I suggest to you that a jury trial is not an appropriate forum for the presentation of psychiatric explanations of behavior. The function of a jury in a murder trial should be limited to a finding that an accused did or did not

commit the offense charged. Once guilt is established, a Sentencing Authority composed in part of psychiatrists and other professionally trained people, should, in the absence of capital punishment, decide what combination of treatment and/or punishment is appropriate to the individual offender.

Several months before his suicide Cooper wrote a poem which is not only particularly appropriate in expressing his feelings about himself, but also has some relevance to the procedure by which his case was handled.

Sunlight in patterns,
Rectangular shapes,
Covers my floor.

Moonlight imprisoned
Slantingly gapes
Through my door.

Night air comes creeping
Through the small windows
Cold, fresh and free ;

Willingly captured, like
Schools of small minnows,
Coming to me.

Starlight is filtered
Through dirty glass,
Soiling the sky.

And time is hollow
Never will pass,
Unless I die.

Where am I ?

REVIEW OF RAPID URINE TESTS FOR PHENOTHIAZINE AND RELATED DRUGS

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Since the late 1950's the phenothiazine and related drugs have been in large scale use in general medicine and particularly in psychiatry. Their versatility and manifold therapeutic effectiveness are almost universally acknowledged, while their action mechanism is still incompletely understood. Investigations on the metabolism of these compounds are still in progress and have yielded some significant results(8-12).

During our early investigations into the metabolic fate of phenothiazine compounds, we took a clue from some incidental observations, such as the obvious autoxidation of aqueous chlorpromazine solutions, rapidly turning brown when exposed to daylight, or the photosensitivity of patients on chlorpromazine therapy. Clearly, chlorpromazine had a very reactive nucleus, apt to produce a variety of oxidative derivatives. Assuming that some of the more reactive intermediates might be demonstrable in urine, a search for a simple, suitable reagent was started and resulted in the first rapid urine color test for chlorpromazine(1) (see chart, test I), whereby an acid solution of ferric chloride, mixed with urine, yielded a scale of purple colors proportionate to drug intake. A subsequent search of the literature showed that while there were few pertinent data for chlorpromazine, there was a vast body of literature for the parent compound, phenothiazine. The entire phenothiazine field—from the compound's synthesis in 1883 by Bernthsen(13), to its intensive recent investigation by Michaelis and co-workers(14-17), including all industrial and pharmacological applications over the last 70 years—has been comprehensively and competently reviewed in 1954 by Massie(18). Animal studies on metabolism and excretion of phenothiazine(19-22) showed that type and amount of drug metabolites varied from species to species, but that

the urines contained one or more partially oxidized or hydroxylated intermediary metabolites in all instances. The first basic metabolic data for chlorpromazine were reported by Salzman, Moran and Brodie(8). They identified, in human urine, the chemically unchanged, unoxidized chlorpromazine and its sulfoxide and described a procedure(9) for quantitative determination of both compounds, which account for 5 to 12% of the daily drug dose. This left a large balance unaccounted for. However, these two compounds, the beginning and the end of the human metabolic process, do not yield the intense purple color reactions obtained in the urines of patients with test I. Unoxidized chlorpromazine yields a pink color, while sulfoxide produces no color at all with this reagent.

Speculating that the partially oxidized, highly reactive intermediary drug metabolites might act as oxydo-reduction systems by means of which some of the therapeutic effects might be accomplished, we tried to duplicate the physiological metabolism of chlorpromazine *in vitro* by ultraviolet irradiation of aqueous drug solutions(23). While this did not produce any sulfoxide, it did indeed lead to the formation of an oxidative intermediate closely resembling the urinary metabolites responsible for the color tests.

While continuing to investigate the chemical nature of the elusive intermediates, the initial rapid urine color test for chlorpromazine was modified for the purpose of demonstrating other urinary phenothiazine drugs and to provide objective criteria for their intake(3-7). It is the purpose of this review to consolidate our findings and to reduce the number of the seven originally developed tests to an effective minimum with which general hospitals, mental institutions of all types, physicians in private practice, toxicology centers, mental hygiene and outpatient departments, *etc.* will be in a position to carry out an effective testing program

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with a small number of test solutions and corresponding color scales(1-5) (see chart).

SIGNIFICANCE OF TESTS

Thousands of chronic mental patients with many years of hospitalization have been rehabilitated through the use of drug therapy and discharged into the community(24-36). Many of these patients maintain this status successfully on maintenance drug regimens. It has become an established trend to provide aftercare for them in outpatient settings, in mental hygiene centers or by supervision of private physicians. The latter have frequently been reluctant to treat former mental patients, especially, if there was a known history of combative or other acting-out behavior. Most of these patients do not relapse under adequate medication, and hence objective criteria to evaluate drug intake are essential to the professional personnel dealing with the increasing number of patients on maintenance therapy in the community.

Within the mental hospital setting, it became obvious that the patients who were most benefited by systematic chemotherapy were frequently the most likely candidates to omit intake of their prescribed drugs. This was especially true of patients whose illness was characterized by catatonic, paranoid, depressive or negativistic symptomatology. As the nursing staffs on drug-controlled wards for formerly severely disturbed patients were drastically reduced, in many instances, it became a vital problem of ward safety to have objective criteria for actual drug ingestion.

Theoretical considerations also pressed in the same direction: Controlled studies on the therapeutic effects of various phenothiazine drugs have been undertaken or are now in progress, partly to settle controversies on the effect of drug therapy versus placebo or other therapeutic procedures. Whatever the goal, it seemed imperative to know rather than guess what was being evaluated in these instances(35). Spot checks as well as systematic testing of hospital populations showed that from 5 to 15% of patients in well-staffed hospitals, and more in under-staffed and not particularly drug-minded institutions, successfully "cheeked" their drugs(2, 35, 37, 45). This

is a superfluous drain on pharmaceutical budgets. For large hospital systems as e.g., the New York State Hospital organization or the Veterans Administration, which spend millions of dollars annually for phenothiazine drugs, the figures for annual waste may well amount to hundreds of thousands of dollars.

VALUE OF TESTS IN MEDICAL RECORDS

In some of our buildings for chronic mental patients the results of rapid urine color tests are made part of the medical records, since a patient's individual excretion factor on a stable drug dose is fairly constant. Thus, e.g., a patient on a daily maintenance dose of 400 mg. of drug, showing a urinary color intensity of "+ +" during his hospitalization, is expected to show the same excretion factor (+ +) on periodic return visits. This permits reliable evaluation of drug intake by patients on self-medication during trial visit or after discharge.

AVAILABLE TESTS AND DIRECTIONS FOR THEIR PERFORMANCE

In 4 years of intensive experience in testing for phenothiazine and related drugs in urine, we found the five tests condensed in the summary chart most useful in routine testing procedures. These tests are safe even in the hands of operators inexperienced in laboratory procedures and can be performed in any setting, from office desk to hospital ward. They involve the use of 4 different reagents. If only a minimum program is to be carried out, in which the emphasis is placed on establishing merely whether any phenothiazine drug is present, test V(5) alone will furnish this information, without yielding the more specific, semi-quantitative scales obtainable by tests I, II, and III(1-3) (see chart).

Tests I to V are performed by adding 1 ml. of reagent to 1 ml. of urine in a test tube, shaking gently, and reading promptly against the color chart. Test IV for imipramine(4) occasionally requires more than 1 ml. of reagent, if phenothiazine drugs are simultaneously present, and in test III for thioridazine, the maximum color may not develop before 20 seconds after mixing urine and reagent, especially at low doses.

We found it practical to dispense equal volumes of urine and test reagent by means of two graduated, rubber tipped medicine droppers, one for urine and one for the brown reagent bottle, the latter being mounted in a plastic screw top as a permanent tight closing stopper. Color charts should be placed against a light surface away from the window, since readings in transparent light would be too low.

URINE SPECIMENS TO BE USED

Almost any urine specimen may be used in the high and medium dosage ranges of the phenothiazine drugs, *i.e.*, the doses found effective in hospital psychiatry. To obtain consistent and reproducible results, it is preferable to perform all tests on morning urine specimens obtained on arising, before breakfast and medication. Normally, specimens of adequate concentration are obtained in this way. However, when 20 mg. of drug or less per day are given, this procedure may yield inadequate color reactions. Testing should then be repeated 1½ to 3 hours after drug intake, coinciding with peak excretion of drug.

EVALUATION OF TESTS

It should be emphasized that any color test reflects a momentary drug level, and that no distinction between a recently ingested low drug dose and a previously taken higher dose can be made. Neither is it possible to identify the specific drug ingested by performing a single test, since all phenothiazine derivatives react to some extent with the various test reagents. Positive identification of a specific phenothiazine compound can only be made by spectrophotometric or similarly specific procedures. Combinations of various phenothiazine drugs may be summarily evaluated by means of the universal test V.

STORAGE OF URINE SPECIMENS AND TEST REAGENTS

Urines may be stored for several weeks, refrigerated, with a few drops of toluene as preservative, without appreciable loss of drug. Glass containers should always be used, since plastic bottles or paper containers adsorb some of the drug content.

Prolonged storage is best achieved by freeze-drying of the specimens. This will preserve the original drug content and the original ratio of individual metabolites. Otherwise, prolonged storage will change both of these factors, decreasing total drug content and reducing some of the oxidative metabolites to unoxidized drug, probably due to bacterial action.

Reagents I through V are stored in dark glass bottles. They are stable without refrigeration and have a shelf life of a year or more. They can be readily and cheaply prepared by hospital pharmacies or laboratories, and should be properly labelled "poisonous" in view of their acid content.

LIMITATIONS OF THE INDIVIDUAL TESTS

Individual statistics on the occurrence of false negatives and positives are found in the original publications (1-7). In summary, it may be repeated that virtually *no false negatives* have been encountered. An occasional urine specimen may be very dilute after fluid intake of more than 2000 ml., or, the specific urinary drug level may initially be inadequate for satisfactory demonstration immediately after institution of low dosage therapy. In these cases specimens obtained 1½ to 3 hours after drug administration should be used. During this optimum period test V will permit detection of as little as 5 mg. of a single phenothiazine drug dose in persons without previous phenothiazine level. With regard to *false positives*, most of our experiences were previously reported (5, 38, 39). Some categories of false positives are common to tests III and V. Thus the urine of phenylketonurics, of persons with impaired liver function or on high doses of paraaminosalicylic acid or estrogen therapy, register false positives, of low color intensity. Tests I for chlorpromazine, II for promazine and mepazine, and IV for imipramine are not subject to the above false positives. Concerning potential false positives due to salicylic acid derivatives, *e.g.*, aspirin: Urines containing aspirin and its metabolites after intake of up to 30 grains, the highest dose seen, do not produce false positives with any of the tests. *In vitro* tests showed that 10 mg. acetylsalicylic acid added to 1 ml. of urine, corresponding approximately to an aspirin in-

take of 10 gm. or more, did not produce false positives.

Another source of interference with clear test colors was recently pointed out by Levine, Levine and Small(40). These authors consider urinary indican as one such agent producing false positives. However, the color development due to indican appears with considerable delay, whereas phenothiazine colors appear immediately and should be read within 10 seconds, as pointed out in the individual test directions. With strict observance of these directions no false positives due to indican are seen in tests I to V. Even the addition of 1 mg. of indican—a physiologically unlikely amount—to 1 ml. of urine already containing high amounts of indican, did not produce false positives in properly executed tests. Furthermore, a simple procedure, requiring only a few minutes, will eliminate indican by selective adsorption of this compound on an ion exchange resin(12). Adding 100 mg. Dowex AG 3-X 4 Anion Exchange Resin, 200 to 400 mesh, Chloride Form,³ to 3 ml. of urine in a test tube, shaking vigorously for one minute at room temperature and filtering, will selectively adsorb indican along with a number of other undesirable urine constituents, such as intense urine color *etc.*, with negligible loss in phenothiazine compounds. The tests are performed with 1 ml. of the clear filtrate, which usually appears lighter colored than the untreated specimen, and yield clearer color reactions, conforming more closely to those of the charts. The resin adsorption procedure is useful in connection with all tests, whenever maximum clarity of colors can not be otherwise achieved. While this procedure eliminates indican, aspirin, *etc.*, it does not eliminate false positives due to impaired liver function, conjugated estrogens, paraaminosalicylic acid, nor a number of endogenously produced hydroxylated metabolic compounds, as previously reported(5, 38, 39).

The more sensitive the individual tests are, the greater the potential sources of interference and false positives. Thus, the

extremely sensitive test VII(7) for the demonstration of piperazine-linked phenothiazine drugs, administered in the lowest daily dosage range, shows the highest percentage of false positives. With this test Heyman(41, 42) and Posner(43) found higher percentages of false positives in different hospital populations and controls respectively than seen in our hospital population. We therefore recommend the use of test V instead of VI(6) and VII(7) for detection of low dosage phenothiazine drugs (up to 100 mg. per day). For unequivocal results all color development appearing after the 10 second limit should be disregarded, and the resin adsorption should be used as an added safeguard in intensely colored urine specimens. The use of the most sensitive tests VI and VII should be reserved for such research projects as drug discontinuation studies, in which minimal amounts of drugs are to be demonstrated, and they might then also be suitably supplemented by test V. They remain useful due to the absence of false negatives, and to the formation of optimal colors for the type of drugs for which they were designed. Test colors obtained with these two reagents are slightly more intense and more stable than those of test V, but the incidence of false positives is considerably higher, if limited to the lowest level of the charts. Details of the composition of these sensitive reagents for triflupromazine (Vesprin)(6) and the various piperazine-linked phenothiazine derivatives(7), their storage, handling and color charts are contained in the original publications. In the special projects in which they may be used, the following precautions should be observed: Periodic testing of the reagents' potency against a specimen of known drug content should be performed. These tests are subject to the same categories of false positives as tests III and V, and color development due to indican may again be avoided by pretreatment of the urines with anion exchange resin. In specimens containing high amounts of indican which has not been filtered out, interfering color development (brown, olive, slate grey) distinguishable from the pink to purple phenothiazine colors, but appearing within 10 seconds, is seen.

³ Obtainable from California Corp. for Biochemical Research, 3625 Medford Street, Los Angeles 63, Calif.

OTHER RAPID URINE COLOR TESTS REPORTED

Sprogis and coworkers(44) reported a color test for chlorpromazine in 1957 calling for separate additions of concentrated hydrochloric acid and a critical, small volume of dilute sodium nitrite solution to urine. Being more cumbersome and producing less stable color development, it does not have the simplicity and ease of the simultaneously published test I (see table). Moreover, test I was consistently reported to be free of false positives(37, 38, 40), whereas Sprogis' test, due to its extreme acidity in this respect compares to test VII (7). Such acidity is unnecessary in the demonstration of urinary chlorpromazine.

A similar rapid urine color test based on two separate additions of nitric acid and sodium nitrite solution to urine was published by Neve(45) in 1958. He stressed the fact that some of the red to purple color reactions resulting in the presence of various medium to high dosage phenothiazine drugs may be so fleeting as to be almost imperceptible, and cautions against false positives due to a pink color reaction of urobilin with nitric acid. 10.7% of drug "cheekers" were detected by this method. Color reactions produced by this test are less stable than those obtainable with tests I, II, III and V. Furthermore, the sensitivity of universal test V is superior, thus allowing detection of smaller quantities of drug.

While these tests by Neve and Sprogis are correct and actually indicate what their authors report, there was a partially incorrect test reported by Fellman(46) in 1946. This author, using the standard test (5% ferric chloride solution) for the detection of phenylpyruvic acid in the urines of phenylketonurics, whereby green colors develop, detected a green color also in two urines of non-phenylketonurics. He attributed this green color development to chlorpromazine metabolites. This, however, undoubtedly is an erroneous interpretation: 5% ferric chloride solution, without an adequate amount of mineral acid, is unsuitable for specific demonstration of chlorpromazine or any other phenothiazine derived drug. In exceptional cases of extremely high drug intake, it is possible to produce a purple color even with

inadequately acid ferric chloride solutions, but the specificity for chlorpromazine would have to be verified by the addition of acid, *e.g.*, sulfuric acid, which would bleach color development due to aspirin, ketone bodies, phenylpyruvic acid, *etc.* but would enhance the chlorpromazine color. However, a chlorpromazine reaction with ferric chloride and acid would be purple, rather than green. The only instances in which green color reactions have been seen even with test I, were caused by the simultaneous presence of large amounts of reducing substances, *e.g.*, after intake of high potency multivitamins or ascorbic acid. In these cases, the normal purple color reaction could be readily restored by adding a few extra drops of test reagent I.

Moreover, phenylpyruvic acid as well as other ketonic and aldehydic substances form addition compounds with the phenothiazine drugs and their metabolites on which we will report later(12). In the presence of such addition compounds, the characteristic color reactions of the phenothiazine drugs are modified. While these normally appear almost instantaneously, they are considerably delayed in the urine of phenylketonurics.

The second reagent for urinary chlorpromazine reported in Fellman's article(46) is a mixture of sulfanilic and hydrochloric acids to be added to urine, to be followed by a subsequent addition of sodium nitrite, resulting in the appearance of a purple color. This test is valid, if not very practical.

Fellman's erroneous interpretation of the above-mentioned green color reaction observed in urine containing chlorpromazine with 5% ferric chloride solution, gave rise to two additional, outright misleading reports in 1959: Vesell(47) reported 10% ferric chloride in 1% hydrochloric acid as a suitable reagent for the detection of small amounts of prochlorperazine (Compazine) in the urine of a child having ingested a total of 80 mg. of the drug over a period of four days, and showing alarming side-effects characteristic of piperazine-linked phenothiazine drugs. We could not confirm his findings in the urines of patients containing many times the amount of prochlorperazine, nor did his reagent prove suitable for the detection of other more readily demons-

trable phenothiazine drugs in amounts below 400 mg. per day. Our comments(48) were reported promptly, since reliance on an incorrect test for differential diagnosis between dystonia due to phenothiazine toxicity and muscle spasms due to tetanus would be a hazardous practice.

Another simultaneous and incorrect report was published by Nellhaus(49). He added "Phenistix," a commercial reagent strip, as a potential reagent replacing 10% ferric chloride solution. Phenistix is equally unsuitable for the detection of phenothiazine derivatives, but it yields a good scale of green colors for urinary phenylpyruvic acid, and a scale of pink to purple colors with salicylic acid derivatives, *e.g.*, aspirin or paraaminosalicylic acid.

Nellhaus also states that our tests I and II for chlorpromazine and analogous drugs (see chart) were "popularizations" of Fellman's test. Since we found Fellman's 5% ferric chloride reagent equally unsuitable for the demonstration of urinary phenothiazine drugs, we would like to correct this error along with some others contained in this short communication: A red color reaction between the unsubstituted *phenothiazine* and *strongly acid ferric chloride* was first accurately described by Bernthsen(13), the discoverer of phenothiazine, in 1883. We noted that the intermediary oxidative metabolites of phenothiazine derived drugs yield intensely colored, mostly purple reactions, directly in the urine, with properly formulated, adequately acid ferric chloride solutions. Any reddish to purple color shades obtained in urines by the addition of excessively concentrated and hence intensely yellow 5 or 10% ferric chloride solutions *without* addition of adequate amounts of mineral acid, do not indicate *phenothiazine* derivatives, but as previously mentioned, *e.g.*, aspirin and its metabolites, or "ketone bodies"(50).

To sum up the chemical prerequisites for direct demonstration of urinary phenothiazine derivatives, an overall acidity of pH 1 or less, according to quantity and type of drug present, must prevail in the mixture of urine and reagent. Only under these circumstances can rapid urine color tests produce specific phenothiazine color reactions. In some instances, these may be obtained with acids alone, in others with acids containing small amounts of nitrite or heavy metal ions, for instance ferric ions.

SOME CHEMICAL DATA ON URINARY PHENOTHIAZINE DRUGS

Among the various phenothiazine drugs, the metabolic fate of chlorpromazine has been most thoroughly investigated: apart from the unoxidized drug and its sulfoxide detected by Salzman and Brodie(8, 9), other metabolites, partly in free form and partly as glucuronic acid conjugates, with oxidative changes in the nucleus and demethylation in the side-chain, have recently been reported(51-54).

According to our own data(12, 55) concerning chlorpromazine, the average daily urinary excretion during continuous drug administration, approximates one-half of the daily drug intake, and a lesser proportion in single drug doses. The balance is apparently excreted in the feces(57-60), with some storage in various body tissues being obvious from data on prolonged excretion after drug discontinuation(10-11). Of the amount of drug contained in urine only about 20% are in the form of the solvent extractable metabolites, whereas the balance of 80% of urinary drug content was found to be in the form of polar, intermediary oxidative metabolites comprising various types of hydroxylated derivatives(11, 12, 55). Both the absolute amounts of individual drug metabolites and their ratio were found to vary substantially from drug to drug, and to a lesser extent for different patients on the same drug therapy. Simple new, quantitative methods for determining total drug content and ratio of individual metabolites, some of which contain free radicals, have been devised and are being prepared for publication(12, 55).

In this connection it might be mentioned that in the administration of phenothiazine drugs, no essential differences in therapeutic efficacy and urine color tests were noted for intramuscular and oral doses of chlorpromazine (tablets or syrup) in the same individual, while spansule type medication was repeatedly found to require a 30% increase in dose to obtain the previous clinical effect of tablets and urinary drug level according to test I.

While investigations on phenothiazine metabolism and excretion are likely to continue in many laboratories for some time to come, and will extend to newly synthesized

drugs, the above data might in the meantime be helpful to investigators in this field. With regard to rapid urine color testing, the available reagents and the individual color scales of the chart, as summarized here, are fairly comprehensive and adaptable to the various categories of phenothiazine and imipramine drugs to be expected.

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THE CURRENT STATUS OF PSYCHIATRY IN THE UNITED KINGDOM

HENRY P. LAUGHLIN, M.D.¹

In 1957 and in 1960 I served as the Delegate of the American Psychiatric Association to the Royal Medico-Psychological Association of Great Britain(1, 2). This article is a summary of the report which I prepared for the APA Council following my latest trip.

In the 3-year interval between my two official visits a number of developments, present and pending, are worthy of our attention. The report of the Royal Commission on the Law Relating to Mental Illness and Mental Deficiency was rendered in 1957. The new Mental Health Act became official in 1959 and operative in the fall of 1960. Since 1957 there has been a significant and somewhat surprising growth of voluntary health insurance plans.

The National Health Service has made progress and, despite the foregoing, is a firmly entrenched socio-political fact in the United Kingdom. The R.M.P.A. continues to flourish. There is more private practice of medicine generally and of psychiatry. I shall comment briefly on these and certain other possible areas of interest.

1. THE ROYAL COMMISSION REPORT

In 1957, following intensive study of the exceedingly complex legislative, social, and medical aspects of mental health areas, this multidisciplinary group (including psychiatrists T. P. Rees and D. H. H. Thomas) produced a highly significant report. The recommendations of this Commission provided the basis for revising a great deal of existing legislation and procedure.

2. THE NEW MENTAL HEALTH ACT

This Act is the legislative consequence of the preceding Commission Report. Described more fully in an earlier article in this Journal by Dr. W. S. Maclay(3), it is a fundamental revision of English mental health law, replacing or partly replacing 52 prior Acts. The consequences in the manage-

ment, disposition and treatment of the more serious mentally sick patients are substantial.

The new Act has widespread public and professional support and reflects the changing public attitudes in the United Kingdom concerning the field of psychiatry. It should produce a number of constructive changes, including: 1. Simplification of commitment and other procedures; 2. A further shift of psychiatric services into the community; 3. The local authority to have more of the responsibility in patient management, *etc.*, in place of the mental hospital; 4. A possible growth of psychiatric units in general hospitals; 5. Generally more understanding and humane attitudes toward mental illness; 6. Voluntary admissions and minimal use of compulsory powers; 7. The establishment of a Mental Health Tribunal for patient appeals.

3. THE NATIONAL HEALTH SERVICE

The National Health Service has been in operation since July 5, 1948 and has become an accepted establishment. The total impact upon medical practice and patient care has been tremendous. To the American observer the effects have not been all good by any means, neither have they been all bad.

In general, British psychiatrists seemed less inclined to be critical of the N.H.S. currently than upon prior visits. This may be due to a number of factors, including certain improvements in N.H.S. operation, the new Mental Health Act, certain salary increases and the passage of time. In recent years there has been steady progress in the staffing of hospitals generally, including the psychiatric hospitals. Although the great majority of psychiatrists work in the hospitals, there is an increasing amount of community work underway.

The N.H.S. Consultant Psychiatrist: Of the estimated 2100-2400 psychiatrists in the U. K., which comprises England, Wales, Scotland and Northern Ireland, over 700 are N.H.S. consultants, full or part-time. Part-time status (giving no more than

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THE ROYAL MEDICO-PSYCHOLOGICAL ASSOCIATION
One Hundred and Twentieth Annual Meetings at Coulsden, Surrey, and London, England.



..... Taken at Cane Hill Hospital on July 13, 1960 by Dr. Robert W. Armstrong of Oxford and Bournemouth, R.M.P.A. Past-President.

Dr. A. B. Monro of Epsom, General Secretary of the Royal Medico-Psychological Association; Dr. Alexander Walk of Coulsden, R.M.P.A. President; Dr. Henry P. Laughlin of Washington, Delegate of the American Psychiatric Association; Dr. Angus MacNiven of Glasgow, Scotland, Immediate Past-President of the R.M.P.A.; and Dr. William McCartan of Co. Down, N. Ireland, R.M.P.A. President-Elect.

9/11ths of one's time to N.H.S.), is sought by some psychiatrists in order to allow some private practice, and for tax deduction of certain car and utility expenses. As we consider N.H.S. salary scales we shall see that adding to one's income leads to an increasing surtax.

Salary Scales and Tax Rates: Salary arrangements for N.H.S. consultants in the various specialties are similar. The beginning physician receives an initial base salary of \$6400. Over a 10-year period this can gradually rise to his maximum base pay of \$10,900. All figures are approximate conversions into dollars from pounds sterling. They are from the new and improved N.H.S. pay scales which became effective toward the close of 1960.

"Award monies" are granted in addition to the basic salary. There are four levels: "A"=\$7700 which is granted to some 4% of all consultants; "B"=\$3600 which 10% receive; and "C"=\$2100 received by approximately 30% of the consultants. Exactly 100 super "A" awards, amounting to \$8400 each, are available among all N.H.S. physicians.

Taxes take a substantial bite from earnings and increase rapidly as one's salary rises. As an example, a married physician with two children, having a total N.H.S. income of \$9400, pays \$2240 standard income tax, plus \$280 surtax, leaving him a net income of \$6880.

4. GROWTH OF VOLUNTARY HEALTH INSURANCE

It was most interesting to learn of the rather remarkable growth of voluntary health insurance plans. From a negligible total of persons included as recently as 1956, various plans in force today already cover an estimated 2½–3 million people, some 1/15th of the total population.

Over this same period there has been a noticeable rise in the national economy. This appears to be reflected in the health interests and needs of people generally. Accordingly they may seek to supplement or replace N.H.S. services. Private care can be secured. Commercial health insurance can be purchased. Many variations of coverage are offered. Some improve N.H.S. facilities; e.g., a private hospital room in the event of illness. Some provide complete

coverage outside of N.H.S. Many plans include psychiatric services.

5. INCREASE IN PRIVATE PRACTICE

Economic growth has also helped encourage the private practice of medicine. Psychiatrists are among those who are seeing more private patients. More are becoming part-time N.H.S. consultants, allowing them also to see patients on a private, fee basis. Some regard the maintenance of an N.H.S. affiliation as necessary, since hospital and other staff positions are under its aegis and such an appointment may be a prerequisite to receiving referrals.

There is more reserve concerning fees in England than in America. A few years ago I was a member of a special APA Committee which had little difficulty securing specific data concerning their fees and income from several hundred colleagues. I believe this would present considerably more difficulty in the U. K. The best consensus concerning private fees would suggest a per session charge of 5 to 7 guineas (\$15 to \$21) might be made by the Harley Street psychiatrist.

6. THE ROYAL MEDICO-PSYCHOLOGICAL ASSOCIATION

The RMPA is the oldest association of psychiatrists in the world. Founded in 1841, through the initiative of Dr. Samuel Hitch of the Gloucester Asylum, it antedates the APA by 3 years. It has likewise gone through several name changes, and has gradually grown to its current membership of 1800. The present name and royal charter date from 1926. About 100 new members are elected annually.

Prior to the turn of this century, five major area divisions were established, three in England and Wales, and one each in Scotland and Ireland. Each holds scientific sessions, and those of Scotland and Ireland also deal directly with their government departments.

In 1946 the formation of sections became possible and four have been formed: 1. Child psychiatry; 2. Mental deficiency; 3. Psychotherapy and social psychiatry; 4. Research and clinical. Sections² meet dur-

² An RMPA member may belong to one, all or none. He is also free to attend any section meeting.

ing general meetings, hold their own programs and elect their own officers. The *Journal of Mental Science*, published since 1853 (the *American Journal of Psychiatry* was founded in 1844) is the official publication of the Association.

Meetings are marked by a cordial atmosphere and I could hardly have received a friendlier reception than upon the occasions I have been privileged to meet with my U. K. colleagues. The accompanying photograph pictures the present and upcoming leaders of the R.M.P.A. and continues this group without interruption from those included in the previous photograph in the March 1960 issue of the *American Journal of Psychiatry*.

7. OTHER NATIONAL PSYCHIATRIC GROUPS

The Psychologic Medicine Division of the British Medical Association includes over 600 members, most of whom are also members of the RMPA. This group represents

the psychiatric viewpoint within the B.M.A.

The British Psycho-Analytical Society was founded in 1913, becoming known by this name in 1919. The latest report lists 101 members and 123 associate members. The headquarters address is 63 New Cavendish Street, London, W.1.

A Group for the Expression of Views of Clinical Psychiatrists, also known as "The Oedipal Group" has some 150 members. There are also smaller Adlerian and Jungian societies, with headquarters as follows: The Adlerian Society of Great Britain, 42 Fortune Green Road, London, N.W. 6, and the Society of Analytical Psychology, 30 Devonshire Place, London, W.1.

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THE RESPONSE OF SEVERELY ILL CHRONIC SCHIZOPHRENIC PATIENTS TO SOCIAL STIMULATION¹

J. K. WING, M.D., PH.D., D.P.M.,² AND R. K. FREUDENBERG, M.D., D.P.M.³

A number of controlled studies have been made in which occupational therapy for chronic schizophrenic patients has been contrasted with drug treatment. In these studies, occupational therapy has been prescribed in much the same way as a drug, and improvement in behaviour has been described in terms of a global rating or score (4, 6). It has not been possible to gain from these experiments—because of the difficulties in methodology—any suggestion as to principles which should underlie the rational prescription of social treatments. Controlled trials specifically testing these measures (particularly group psychotherapy) have been carried out very infrequently, and those which have been published have not yielded very positive results. One very common finding, however, has been that deterioration occurs in the control group which has not received the treatment, even where no improvement has occurred in the experimental group (1, 5, 7, 8, 13, 14).

Studies by members of the Medical Research Council Social Psychiatry Research Unit, using output in an industrial workshop as an objective measure of progress, have seemed to confirm the lack of effect of social measures. Output improves with practice, but additional incentives such as money, goal-setting, encouragement, and routine psychiatric interviews, appear to

have little incentive effect. In paranoid patients, output may even decrease (10, 12). This contrasts strongly with the marked effects of such incentives in imbeciles (2, 9, 11). A characteristic of the learning curve in the studies of output of schizophrenics has been the slow and linear improvement due to practice which contrasts with the more usual negatively accelerated form seen in normal people and imbeciles.

It has not proved possible in any of the studies so far published to lay down such rigorous conditions of selection, matching and procedure that the experiments could readily be repeated. The results of each paper, and the interpretations of the authors, are therefore difficult to compare. There certainly remains a strong clinical impression that the more stimulation (sensory and social) that a withdrawn chronic schizophrenic patient receives, the more activity he will show, and the better able the staff will be to turn this activity to good account. The studies mentioned above show that there is no question of a clinical cure, but they leave open the question of whether there may be improvement in certain specific aspects of behaviour. The difficulty lies in devising objective measurements of a wide variety of aspects of behaviour, and in controlling the many variables, other than those under investigation, which may alter the patients' responses in an unpredictable way.

The present experiment was a pilot project designed to discover whether there were any obvious changes in output, workshop behaviour, and ward behaviour, in a small group of severely ill long-hospitalized schizophrenics, when conditions of supervision were experimentally varied. The hypothesis was put forward that such patients respond to social stimulation, but relapse when the stimulation is discontinued. The social stimulation given was considerably more intensive, and more dependent upon the judgement of the supervisor, than in O'Connor's experiments.

¹ An experiment of this kind can only be made if the active collaboration of a large number of staff can be secured. We were particularly fortunate in this respect and would like to acknowledge our debt to Staff Nurse Alison, Dr. D. Bennett (consultant in charge of the rehabilitation programme), Staff Nurse Carr, Dr. A. Catterson (ward doctor), Miss A. Constable (senior Occupational Therapist), Charge Nurse Randall, Miss M. Smith (Matron), Mr. O. M. Hughes (Chief Male Nurse), and the staff of the Resocialisation Unit.

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SELECTION OF PATIENTS

Only severely-ill male schizophrenic patients who had been in hospital for more than 2 years and were under 60 years of age were considered for selection. Two special hospital villas, under the personal supervision of the clinician (R.K.F.), had been organised to provide intensive social treatment for 70 severely handicapped schizophrenic men and women. Of the 32 men, 1 was excluded because of a diagnosis of "simple" schizophrenia, 1 because, at the time, his symptoms were of moderate severity only, and 3 because they were already engaged in higher level industrial work and would have lost a substantial amount of pay if they had taken part. The drug treatment of the remaining patients was discontinued. Within the subsequent 3 weeks, 3 patients showed marked disturbance of behaviour which might have been due to the cessation of medication, and drug treatment was therefore resumed in these cases. The remaining 24 patients began work in the experimental workshops 2 weeks after drugs had been stopped. A further 2 patients were excluded after 8 weeks because they developed very high outputs. They were transferred to higher level work and their output has not been included in the following results. The experiment was therefore concerned with 22 severely ill male schizophrenics, all of whom showed severe flattening of affect, and either very severe poverty of speech or very severe incoherence of speech, so that normal conversation was extremely difficult or impossible. No patients had coherently expressed delusions as a predominant symptom.

SOCIAL CONDITIONS IN THE WARD

The social and administrative routines in the Resocialisation Unit where all the patients lived were of a high standard, although it was what used to be known as the "deteriorated" ward. A description of these social circumstances is included because it is thought that, unless demonstration of a minimum standard can be made, it is very difficult to interpret any changes which occur after the introduction of an experimental treatment. The two open villas, one for male and one for female patients, were administered as one unit, and the patients mixed in

all their activities during the daytime. Male and female staff shared similar duties and there was a high staff-patient ratio (1:8.75). There were weekly meetings of small groups of patients with a nurse and another staff member, and regular joint staff conferences. There was also a weekly ward meeting of all staff and patients. The usual daily routine was encouraged, and the patients left the ward to do subcontracted industrial work in the occupational therapy department from 9:30-12, and 2-4:30 every day. Various leisure time activities were organised, and patients also helped with domestic activities outside working hours. Detailed attention was paid to the re-education of personal habits of cleanliness, neatness and good manners. A deliberate effort had been made to create a unit that was not only a therapeutic milieu for the patients but also attractive for staff to work in.

THE EXPERIMENTAL WORKSHOPS

Two rooms were used as experimental workshops. One was larger and lighter than the other. They were connected by a communicating door which remained open throughout, and there was considerable movement between them. Eleven patients worked at two tables in each of the rooms. Two 2-hour trials were conducted daily, roughly from 9:45 to 11:45 a.m., and from 2:15 to 4:15 p.m. Times of beginning and ending work were noted and all output corrected to a full 2-hour period. Wednesday afternoon was worked by most patients but 3 or 4 patients regularly had visitors on this day, and others occasionally did, so that this trial was omitted from the calculations. There was no Saturday working. An occasional day was missed because of a public holiday or a coach outing.

The work consisted of tucking in a small triangular flap on each side of a cardboard sleeve, so that the glass globe of an electric light bulb could rest on the flaps, inside the sleeve, with the metal part of the bulb projecting through. The sleeves came in bundles of 50, each secured by an elastic band. The supervisor was allowed to keep a supply of bundles in front of each patient, if he did not supply himself from the carton, and to remove the elastic band if the patient did

not do this himself. The supervisor also checked that there were 50 in a completed bundle, and put on an elastic band if the patient did not do so. No actual sleeve folding work was done for the patient, except during two initial training sessions which were not scored. A standard method of folding in the flaps (one at a time) was taught, and all patients but one used this method throughout. The other patient occasionally adopted a two-handed method which was considerably faster. It is well known to industrialists that changes in method of working can produce increases in output compared with which other changes in conditions (*e.g.*, introduction of bonus payments, *etc.*) may have only marginal effects. It is thought that conditions in this respect were standard throughout the experiment.

An individual's score for any one 2-hour trial consisted of the number of cardboard sleeves he had completed—usually in multiples of 50. One patient, whose mental state was characterised mainly by coherently expressed delusions, worked very rapidly and efficiently, and his output over 8 weeks took the form of a typical learning curve except

that the flattening noted by O'Connor was still evident (Figure 1). He and another patient, as mentioned earlier, worked so fast that they had to be omitted from the experiment after 8 weeks. His output per trial at this point was about 3,000, and his pay (at 1/3d per 1,000) reached 35/- a week. Figure 1 gives some estimate of the maximum possible output for chronic schizophrenic patients under these conditions. The average pay, over the course of the experiment, omitting these two highest scorers, was 4/- a week.

Unfortunately, this most suitable work was obtained on a limited subcontract which could not be renewed, and it did not last for the whole of the experiment, in spite of the exclusion of the two highest scorers. During trials 70-82, 1-hour sessions were adopted. The remaining hour was occupied with coil-stripping—a much less skilled form of work with very low pay. However, a 2-hour trial was compared with the 1-hour trial immediately preceding and following it, and it was found that no significant distortion would be introduced if the outputs of the 1-hour trials were doubled to make them comparable with the rest.

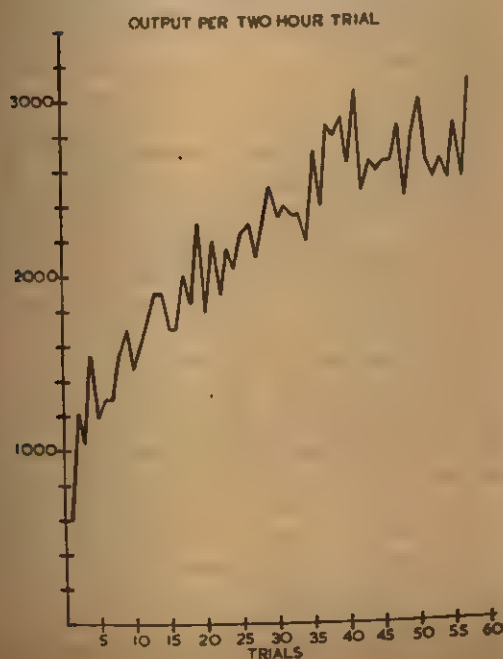
A confirmatory study using a more complicated form of work—box nesting—was undertaken. Two pieces of cardboard 8" by 2½" with 3 slots in each, were held parallel to each other, in the left hand, and 3 cross-pieces, 6" by 2½", each with 2 slots, fitted across them to form a nest of 12 "boxes." Three initial training sessions were not scored.

THE MEASUREMENT OF WARD AND WORKSHOP BEHAVIOUR

During trials 1-16 the investigator (J.K.W.) and the ward doctor (A.C.) worked out a system of time-sampling workshop behaviour which was applied during the remaining trials. Four scales were constructed (see Appendix A) for rating immobility of posture, mannerisms, laughing and talking to self, and restlessness. Observations were made by the investigator or the ward doctor on 4 mornings each week. The patients at each table were observed for 15 minutes with particular reference to the items of behaviour most relevant to the rating scales, and observations were re-

FIGURE 1

Output Per 2-Hour Trial of Highly Motivated Chronic Schizophrenic Patient Whose Leading Symptom Was Coherently Expressed Delusions



corded in the form of brief descriptive notes. The investigator later rated these notes on the scales of Appendix A.

The notes made by the investigator during trials 37 and 40, and by the ward doctor during trials 35 and 38 (*i.e.*, 4 consecutive mornings during one week) were typed out on slips of paper. Identifying material was removed and the slips placed in random order. They were then rated, on the 4 scales, by an independent rater. Correlation coefficients were calculated, for 3 of the scales, between the 4 sets of ratings made at the time, and the 4 sets of ratings made by the independent rater subsequently. Too few patients were noted as showing mannerisms during the 4 periods of observation to make parametric statistics applicable—there was practically complete agreement on this point. The mean coefficients for the other 3 scales were 0.86, 0.96, and 0.62.

A simple 12-item ward behaviour rating scale was completed by the ward charge nurse at the end of each week of the experiment, except for 3 weeks when he was on holiday. Two scores were derived from this schedule. The first score ("Social Withdrawal") was composed of ratings on 8 items—social withdrawal, disinterest in leisure activities, lack of conversation, slowness, underactivity, poor personal hygiene, poor mealtime behaviour, poor personal appearance—which all correlated together. The second score, "Socially Embarrassing Behaviour," was composed of ratings on 4 items—overactivity, laughing and talking to self, posturing and mannerisms, threats or violent behaviour—which also correlated together. The two scores were not intercorrelated. There was satisfactory reliability as between raters.

PRELIMINARY MATCHING AND EXPERIMENTATION

The 22 patients were divided into two equal groups, one in each workshop. The two groups changed rooms at the beginning of each week throughout the experiment because of the pleasanter working conditions in the larger room. There was no evidence that either room stimulated greater output than the other. A male and a female staff nurse were chosen as supervisors and, during the preliminary 2 weeks, they alternated

daily between workshops, so that all patients were supervised as much by one as by the other. At the end of 2 weeks it was possible to look for the effect of each supervisor on output, but no differential effect could be found.

The output during these 2 weeks could therefore be used to match two groups of 11 patients. This was done by obtaining mean scores for trials 1-7 (during the first week in the workshops) and allocating alternate patients, in rank order, to one of two groups. After two small adjustments, there was no significant difference between the two groups, and they were also adequately matched for trials 8-16. In fact, no further adjustment could be made which would improve the existing equivalence of the two groups in respect of age, length of stay in hospital, and ward behaviour scores. The values are shown in Table 1. A rating of predominant mental symptoms had been made by the investigator before the beginning of the experiment. All patients were severely ill and all showed symptoms which markedly interfered with their conversation on neutral topics. Nine patients in each group showed severe blunting of affect and poverty of speech, the remaining patients showed severe incoherence of speech. The scales used for rating the patients on mental state will be described elsewhere. The group allocated to the female supervisor was labelled Group A. The other group was called Group B.

CONDITIONS OF WORKSHOP SUPERVISION

Following the preliminary two weeks in the workshop, each group was allocated its own supervisor. The supervisors were recently qualified staff nurses chosen by the clinician because they were representative of a good average standard of nurse in the hospital, and because they could be released from other duties for the period of the experiment. It was thought that any results they obtained could be reproduced by the majority of their colleagues.

Two conditions of supervision were defined. During "passive" supervision, the supervisors were instructed to carry out the administrative procedure described earlier, so that patients always had work in front of them ready to do. Otherwise they were to

concern themselves only with collecting work, checking it and entering it in the record book. They could correct mistakes but make no other comment on the work. They could deal with any incident which required intervention in any manner that seemed best to them. The behaviour of the supervisors under these conditions was observed during a period of 15 minutes following the investigator's time-sampling of patients' behaviour. In general there was silence during these sessions unless the supervisor wanted help in stacking the work, and the passive conditions of supervision were adhered to very closely.

Simple written instructions for active supervision were given to the supervisors. Patients who were already working well were to be praised and encouraged, and told what their output was and what their previous best had been. They were also reminded of the money value of their work. Patients who worked intermittently were to be encouraged particularly during periods when they stopped work. Patients who did not work at all were to receive special demonstration and attention. In no case was more than a few minutes to be spent with any patient, and whenever there was any sign of irritation the supervisor was to desist. The supervisors were to adopt the method of approach and choice of words which seemed to them best for each individual. In no circumstances was any work to be done for the patient. Time-sampling during the periods of active supervision showed that the supervisors kept closely to their instructions, in that there was little other verbal comment apart from praise, encouragement and goal-setting.

An initial period of 4 weeks (trials 1-32)

was allowed to overcome practice effects. Since, at the end of this time output was still increasing, it was decided to introduce active supervision for group B but not for group A. After a fortnight of these conditions (trials 33-50), passive supervision was resumed in both groups for a further 2 weeks (trials 51-69). Active conditions were then reintroduced for both groups and continued until the contract had been worked out (trials 70-82). This design allowed for a comprehensive test of the hypothesis that additional social stimulation increases output in this type of patient. A further check was provided by the subsequent introduction of more complex work, first under passive conditions of supervision (trials 83-86), then active (trials 87-91), and finally passive again (trials 92-94). Between trials 82 and 83, while the new work had not come in, the patients worked for 2 weeks at coil-stripping, under passive conditions of supervision.

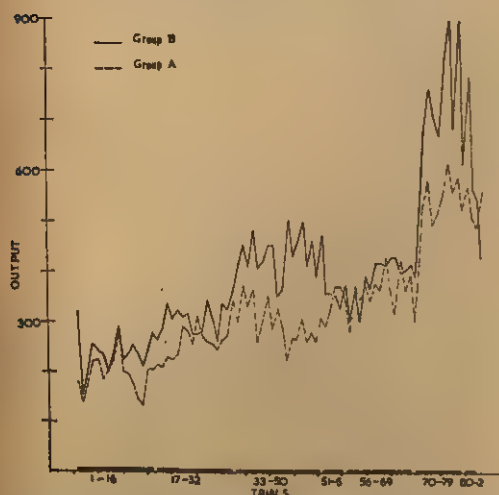
RESULTS

1. *Output*: The mean scores per individual for each 2-hour trial are shown, separately for Groups A and B, in Figure 2. The peak output for any individual was 1,600 sleeves (on the 74th trial). This was only 50% of the peak output (on the 56th trial) of a highly motivated patient who demonstrated little handicap (Figure 1). The general level of functioning was thus extremely low. During trials 1-16 (before the groups had been finally chosen and supervisors allocated) there was no overall tendency towards improvement in output. However, when the mean scores are seen in conjunction with the figures for trials 17-32, during the subsequent 2 weeks, a

TABLE 1
Preliminary Matching of Two Groups of Patients
(Age, length of stay, behaviour, output)

	GROUP A		GROUP B	
	MEAN	RANGE	MEAN	RANGE
Age (years)	41.0	25-55	38.6	28-54
Length of stay (years)	14.3	6-30	14.0	6-30
Social withdrawal score	7.3	0-14	8.6	6-12
Socially embarrassing behaviour	2.5	1-5	3.0	1-6
Group output per trial:				
Trials 1-7	2120	1550-2500	2528	1700-3500
Trials 8-16	2172	1500-3050	2711	2300-3200

FIGURE 2
Mean Output Per 2-Hour Trial for Individuals in Groups A and B



trend does become apparent. This can reasonably be attributed to a practice effect. When active supervision is introduced for Group B (trial 33) there is an immediate increment in mean score, but no further increase thereafter. A sudden increase is also seen in Group A but there follows a marked drop in output throughout this period. When passive conditions of supervision are resumed (trial 51) the output in Group B drops sharply, while that in Group A increases equally sharply. The output then remains stable until the reintroduction of active supervision, this time in both groups (trial 70). The immediate increase in output in Group A is of the same order as the earlier increase in Group B. There is an even more marked increase in output in Group B. A natural experiment was conducted when the male supervisor fell ill suddenly. During trials 80, 81 and 82, 3 different student nurses deputised for him and endeavoured to keep up the active supervision. The output dropped markedly, while output in Group A was not affected. The output of more complicated work (trials 83-94) is not shown in Figure 2. There is a smaller proportionate effect of active supervision, but the rise in output when active conditions are introduced, and the fall when they are terminated, is again striking.

The output figures for the two groups are summarised in Table 2. Mean output scores

were derived for each group, representing the output over blocks of trials during which the experimental conditions did not vary.

TABLE 2
Group Output Per Trial During 9 Blocks of Trials

BLOCK	TRIALS	GROUP A	GROUP B
Sleeve folding			
1	1-16	2140	2617
2	17-32	2854	3362
3	33-50	3262	4771*
4	51-55	3660	3850
5	56-69	3945	4219
6	70-79	6000*	8300*
Box nesting			
7	83-86	858	915
8	87-91	1087*	1110*
9	92-94	954	904

* Active conditions of supervision.

The data in Figure 2 and Table 2 seem to indicate clearly that there is a relationship between social stimulation and output. The fall in output, which occurs consistently whenever the extra stimulation is removed, is particularly striking, because it cannot be accounted for in terms of practice effects. However, it is clearly important to allow for any overall trend due to a practice effect before investigating the significance of the changes induced by varying the type of supervision. Seven patients in Group A and 4 patients in Group B increased in mean score from Block 1 to Block 2. These patients improved from a mean of 391.7 during the first period to a mean of 558.8 during the second. The remaining 11 patients actually declined from a mean of 39.9 to a mean of 20.3. There is a higher than expected correlation between the mean score per individual for Block 1 and the mean increment or decrement in Block 2 ($r = +0.84$, $p < .001$). Apart from one case (ranked 13 on initial output) those patients who increased in score from Block 1 to Block 2 were the highest initial scorers, while those who decreased were the lowest initial scorers. (Four patients who did no work in either period were included in the latter group.) However, although the 11 high initial scorers accounted for 91% of the total output in Block 1, and 95% in Block 5 (both under passive conditions of supervision), they accounted for only 73% of the total

output in Block 6 (active conditions). It is clear therefore that the 11 low initial scorers were responsible for a disproportionate amount of the increase in output when active conditions of supervision were introduced.

Thus the 11 patients who initially had a high output contributed most of the practice effect, while the remaining 11 patients were responsible for a substantial proportion of the increase in motivation. The two groups must therefore be analysed separately.

So far as the 11 who showed a marked practice effect are concerned, a maximum point was selected for each one, defined as the first trial following which there were 15 trials with no further increase in output. Slopes and levels were calculated for these 15 trials together with any other trials to the end of the current block. An extrapolation from these slopes and levels allowed the calculation of an expected mean score during Block 5, assuming that the trend had continued without interruption. In 2 cases the calculated level was higher than the observed level and the increase during Block 6 could be explained on the basis of a continuation of an earlier trend. The remaining 9 individuals showed an increase, from Block 5 to Block 6, which could not be so explained. The correlated *t*-test showed a significant increase for these 9 patients ($t=5.63$, $p<.001$).

Turning to the analysis of the scores of the remaining 11 patients, there is no practice effect to allow for, and any increase during periods of active supervision can be provisionally attributed to the effect of increased motivation. A 2×6 analysis of variance of the scores was carried out and showed very highly significant effects between blocks of trials, between the two groups, and also a very highly significant interaction. Subsequent *t*-tests showed no significant difference between any of the blocks of trials for the 4 patients in Group A. The 7 patients in Group B showed a significant increase from Block 2 to Block 3 ($t=2.34$, $p<.05$), a significant decrease in Block 4 ($t=2.50$, $p<.02$) and a further significant increase in Block 6 ($t=7.54$, $p=.001$). This is confirmed by examination

of the output data for each individual patient.

Thus 9 out of 11 initially high scorers, and 7 out of 11 initially low scorers, showed a significant response to active supervision, irrespective of practice effects.

When the more complicated work was introduced, there was still a significant increase in output under active (Block 8) compared with passive (Block 7) conditions of supervision ($t=2.85$, $p<.01$). More important, because practice effects are allowed for, there was a significant decrease on reversion to passive conditions ($t=2.33$, $p<.05$).

Throughout the experiment, there was no evidence that sex of supervisor had any influence on the results. There was the usual wide variation in output from trial to trial which is characteristic of schizophrenic patients. Apart from a fairly constant rise in output on Friday afternoons (pay day) and fall on Monday mornings, which these patients shared with their colleagues in open industry, no systematic interpretation of the diurnal variations can be offered.

2. Time-sampling of workshop behaviour: The workshop behaviour ratings made during each of 5 consecutive fortnightly periods were summed, giving total scores for each group of patients representing their behaviour during that fortnight. The first 4 periods corresponded to trials 17-32, 33-50, 51-69 and 70-82 respectively. The fifth period was the intermediate fortnight between trials 82 and 83, during which the patients were occupied in coil-stripping. Eight observations (lasting one quarter of an hour) were made during each fortnightly period and the total scores for each group are shown in Table 3.

The decrease in "immobility" score, when active conditions of supervision were introduced, and the subsequent increase when passive conditions were resumed, is obvious. The decrease in total score from period 3 to period 4 is significant ($t=4.95$, $p<=.001$). The subsequent increase in period 5 is also significant ($t=3.87$, $p<.001$). There is no significant change in the behaviour scores on the other 3 scales, but there is a small and consistent improvement in each one during the periods of active supervision.

TABLE 3
Total Workshop Behaviour Scores, for Groups
A and B, During 5 Fortnightly Periods

PERIOD	CONDITION OF SUPERVISION	IMMOBILITY		MANNERISMS		LAUGHING AND TALKING TO SELF		RESTLESSNESS	
		A	B	A	B	A	B	A	B
1	Passive	113	116	28	18	69	66	47	54
2	Active (Group B)	123	102	24	4	66	49	44	52
3	Passive	122	124	23	13	64	47	42	55
4	Active (Both groups)	88	48	16	2	62	36	40	54
5	Passive	129	112	13	20	66	46	42	71
Mean per fortnight :									
	Passive conditions	122	117	22	17	66	53	44	60
	Active conditions	88	75	16	3	62	43	40	53

3. *Ward behaviour scores* : The mean behaviour scores for Groups A and B during the 14 weeks in the workshop, are shown in Table 4. The scores representing Socially Embarrassing Behaviour show little change throughout this period and there is no significant difference between the groups. So far as Social Withdrawal scores are concerned, Group B has slightly higher mean scores throughout, though the difference between groups is not significant. There is a gradual decrease in score in both groups from weeks 4 to 8, but this is clearly not related to the activity of the workshop supervisors. The factors responsible for the temporal trends which can be seen in these data are almost certainly complex. Since no other hypothesis was put forward concerning them, no further statistical analysis has been undertaken. It should be noted, however, that the improvement in ward be-

haviour took place during a period when the patients were not receiving any medication.

DISCUSSION

The statistical analysis confirms the impression given by Figure 2, that there is an immediate increase in output in 16 out of 22 severely ill long-hospitalized schizophrenic patients, in response to additional social incentives, and that this increased motivation lasts only as long as the stimulus is applied. Such an unequivocal result raises the question as to why a similar result was not found in the experiments of O'Connor, *et al.* (10) and O'Connor and Rawnsley (12). There may be two explanations. In the first place, it has been shown that there are two subgroups in the present series of patients. Half the patients accounted for over 90% of the initial output of the group, and for all the improvement due to practice, but

TABLE 4
Mean Weekly Ward Behaviour Scores for Individuals in Groups A and B

WEEK	TRIALS	SOCIAL WITHDRAWAL SCORE		SOCIALLY EMBARRASSING BEHAVIOUR SCORE	
		GROUP A	GROUP B	GROUP A	GROUP B
1	1-7	7.3	8.6	2.5	3.0
4	26-32	7.4	9.0	2.1	2.6
5	33-41	6.5	8.0*	2.0	2.2*
6	42-50	6.0	7.6*	2.5	2.4*
7	51-59	5.3	6.2	2.7	2.6
8	60-69	4.2	5.7	1.9	2.4
9	70-77	5.2*	5.8*	1.9*	2.2*
10	78-82	4.8*	5.5*	2.4*	2.8*
12	—	5.5	6.6	2.8	3.3
13	83-88	5.4	6.3	2.4	2.8
14	89-94	4.5	5.5	2.3	2.8

* Active conditions of supervision. Two trials in week 13 and 3 in week 14 were also conducted under active supervision.

this subgroup contributed only 40% of the increase in output in response to additional social stimulation. The remaining patients who had a very low initial output, and who showed no improvement with practice alone, accounted for 60% of the increase in output under active conditions of supervision. O'Connor's patients were probably functioning at least at the level of the former group. In the second place, the social conditions of the present series were much more rigorously controlled, and a more sustained and intensive social stimulus was applied. In O'Connor's work the stimulus was applied uniformly at specified intervals, during 20-minute trials, by experimenters with whom the patients were unfamiliar. In the present project, most stimulation was given to patients who were working least, though every patient was encouraged, and the whole group was aware of the change in routine throughout the period of active supervision. The 2 supervisors were familiar staff nurses who were with the patients all day and every day for several months.

The flat learning curve, to which O'Connor drew attention, is clearly evident in the present work. There is a very marked handicap as measured by the output on the very simple industrial work provided. The fact that, though output was increased under conditions of social stimulation, it did not remain at the higher level when the stimulation was withdrawn, differentiates these patients from the imbeciles in O'Connor's experiment(11).

The decrease in immobility concomitantly with an improvement in output during periods of active supervision is to be expected. Three of the scales which were rated according to observations made during time-sampling of the patients' behaviour, concern activities which are, in part, alternatives to working. If the patients work harder, the time spent in inactivity, mannerisms or restlessness is likely to be diminished. When these ratings are summed for trials 56-79, the resulting scores show a very high correlation with mean output over the same period ($r = -0.93$).

Ward behaviour did not show any corresponding fluctuation during periods of active, compared with periods of passive, supervision. This accords well with the ex-

periences of the other investigators to whom reference was made earlier. There is no generalisation of response from the specific situation in which extra stimulation is provided, to other social situations. The overall improvement and later fluctuation in ward behaviour may possibly be explained in terms of the type of work done—in particular the degree of interest shown by the patients in the different types of work—or it may result from a complex of factors including changes in the attitude of the rating charge nurses.

There is a significant increase in the output of relatively complex work (box nesting) as well as in performance on sleeve folding when active supervision is introduced. The increase is not, however, proportionately as great. The importance of the results with complex work lies in the fact that not only does output increase under active conditions of supervision but it decreases significantly when passive conditions are resumed.

The clear cut way in which these patients responded, with very little latent period, to extra social stimulation, and particularly the sharp drop in output when the stimulation was discontinued, is difficult to explain in terms of learning theory. A physiological process is suggested. Cozin, *et al.*(3) have described something similar in senile patients. Tizard and Venables(15) and Venables(16) have described the improved efficiency of performance of withdrawn chronic schizophrenic patients under conditions of increased background stimulation, and Venables(16) has since postulated a change in level of reticular activity to account for this. However, it is premature to speculate further along these lines in accounting for the present findings.

The way in which other changes in the social environment immediately affect performance is demonstrated by the increase and subsequent decline in output in Group A, while B was being selectively encouraged, and also by the decline in output in Group B when substitute supervisors had to be introduced for 3 trials. There is little doubt that many such "random" influences are occurring all the time in a hospital ward, and the high reactivity which many patients in this series show, may account for the fact

that the performance of schizophrenics is always found to be extremely variable.

The clinical value of active, as compared with passive, supervision for these patients in an occupational therapy department or sheltered workshop is difficult to assess. It is a sound principle of rehabilitation to give exercise to functions which have become disused following illness or injury, in the hope that partial or complete recovery may eventually occur. "Institutionalism," in chronic schizophrenics, may be largely due to the fact that apathetic patients do not actively use their faculties and, in a crowded and understaffed ward, it is difficult to give the proper medical and nursing attention which would keep residual mental and physical functions at the optimum level.

Whether such active remedial care is, in itself, therapeutic, cannot be decided from such a short experiment as this one. There is no evidence, over 16 weeks, that the patients are much different in mental state or behaviour from when they started, though the measures used are admittedly extremely crude. On the other hand, improvement in output was still taking place in certain patients after 200 hours of practice, and it is unlikely that these experimental conditions provided the optimum environment for improvement to occur. Further experimentation is needed in order to discover whether chronic schizophrenic patients may reveal unexpected residual assets under conditions of prolonged and intensive re-education of specific faculties.

SUMMARY

: Twenty-two long-stay severely ill male schizophrenic patients were employed in a hospital workshop for 16 weeks. They all lived in one villa where the standard of social treatment was high. The two workshop supervisors were a male and a female staff nurse. The sex of the supervisor did not influence the results. The conditions of supervision were varied experimentally. There was a sharp increase in output (on a simple sleeve folding task) whenever social incentives were introduced, and a sharp fall whenever passive conditions of supervision were resumed. The 10 patients with the highest initial output, together with 1 other (ranked 13 on initial output), accounted for

over 90% of the output under passive conditions, and for all the improvement due to practice. However, they contributed only 40% of the improvement due to additional social incentives. The remaining patients, therefore, functioned at a very low level relative to the initially high scorers and showed no practice effect, but 7 of them responded very markedly to encouragement. Time-sampling of workshop behaviour showed that the increase in working activity, under active conditions of supervision, was accompanied by a significant decrease in various abnormalities of behaviour (immobility, mannerisms and restlessness). Ward behaviour was unaffected.

APPENDIX A

IMMOBILITY

3. Sitting or standing with minimal movement, *e.g.*, head sunk on chest, eyes closed or half-closed, only very occasional movements such as lifting head or shifting position.

2. Some movement, *e.g.*, staring round workshop, a little work, some fiddling with scraps, rubbing face or yawning, or rare mannerisms. Mainly just sitting.

1. Moving most of the time, *e.g.*, working, fiddling, shifting position, but occasionally remains in one posture without movement.

0. Constantly moving—either working or restless movements.

MANNERISMS (stylised movements which are clearly not random as in fiddling with a scrap of paper, but meaningful to the individual)

3. Practically continuous during observation period.

2. Frequent mannerisms, or for more than half the observation period.

1. Occasional manneristic movements.

0. No mannerisms seen.

MOUTH AND LIP MOVEMENTS, TALKING AND LAUGHING TO SELF

3. Frequently talks or laughs out loud throughout observation period.

2. Occasionally laughs or talks out loud. And/or: overt continuous obvious lip movements, but soundless.

1. Occasional obvious muttering, or continuous chewing, teeth clenching or covert lip movements.

0. No mouth or lip movements.

RESTLESSNESS (include all movements not connected with efficient work but excluding mannerisms).

3. Wandering around workshop throughout observation period.

2. Some wandering around, or constant fiddling (*e.g.*, playing with elastic band or scraps of paper, rubbing face and hands, *etc.*).

1. Some fiddling or staring around.

0. No restless movements.

APPENDIX B

OUTPUT ON AN INDUSTRIAL TASK AS AN OBJECTIVE MEASURE OF IMPROVEMENT IN CHRONIC SCHIZOPHRENIC PATIENTS

In the preceding paper an experiment was described in which 22 severely ill chronic schizophrenic patients were occupied on industrial tasks under varying conditions of supervision. All drugs were removed 2 weeks before the patients entered the workshops. The output the patients achieved throughout the experiment was very low, but it was clearly demonstrated that 11 of them improved with practice, and that 16 out of 22 improved further when extra social incentives were introduced. It was intended to combine this exercise with a drug-trial, but the supply of work ran out after the patients had been receiving trifluoperazine or placebo for only 3 weeks, and an adequate trial was not therefore possible. The method used, however, is thought to be of sufficient interest to justify a technical note on procedure.

Two groups of patients were matched on their industrial output during 18 2-hour trials (33-50). These groups were not significantly dissimilar in respect of age, length of stay in hospital, ward or workshop behaviour scores. One group (6 Group A and 5 Group B) received trifluoperazine 10 mg. b.i.d. The other group received similar inert tablets. Only the clinician (R.K.F.) was aware of the identity of the experimental

and control group patients. Tablets were introduced on the evening before trial 56. Trials 56-69 were conducted under passive conditions of supervision, and trials 70-79 under active conditions. After the patients had been receiving tablets for 6 weeks, more complicated work was introduced (trials 83-94).

The output of the two groups in respect of simple sleeve folding (trials 33-79) and box nesting (trials 83-94) is shown in Table 1. Although the groups are closely matched during trials 33-50, they diverge somewhat so that the placebo group is superior, during trials 51-55 (before tablets were started)—the difference is not, however, significant ($t=0.89$). During trials 56-69 (passive conditions of supervision) there is no change in the relative outputs of the experimental and control groups. When active supervision is introduced (trials 70-79), the 2 groups again become equivalent in output. There is no hint of a drug effect in these figures.

When the more complicated work is introduced, the group of patients receiving trifluoperazine achieves a higher output than the placebo group, under both active and passive conditions of supervision. The difference is not, however, statistically significant (under passive conditions, $t=0.82$).

Clearly the conditions of the experiment do not allow for a conclusion as to whether there is an improvement due to trifluoperazine after 6 weeks on the drug, since output on the two kinds of work is not comparable. However, the reversal of the relative levels of output in the 2 groups does suggest a drug effect.

This method is potentially valuable for testing the efficacy of new drugs in this type of patient, where the handicap is so severe

TABLE 1
Group Output per Trial, During 9 Blocks of Trials in a Group of Patients Receiving Trifluoperazine and a Group Receiving Placebo

	BLOCK	TRIALS	TRIFLUOPERAZINE	PLACEBO
Sleeve folding	3	33-50	3954	4079
	4	51-55	2880	4630
	5	56-69	3278	4886
	6	70-79	6910*	7390*
	7	83-86	1113	660
Box nesting	8	87-91	1304*	893*
	9	92-94	1115	743

* Active conditions of supervision. (Drug or placebo treatment commenced with trial 56.)

that even small degrees of improvement should be noticeable. It should also be possible to discover whether there is any interactive effect between drug and social treatment.

Future trials should only be undertaken when a long run of work is available. Plenty of time is needed for preliminary matching before drugs are introduced, and at least 8 weeks trial on the drug should be allowed for. Matching should take account, not only of initial level of output, but also of practice effects and the effect of social stimulation (unless this is rigorously controlled). Practice effects are difficult to avoid by waiting until all patients have reached a plateau. In this experiment, several patients were still improving after 200 hours of practice.

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A COMPARISON OF PROMAZINE AND PARALDEHYDE IN 175 CASES OF ALCOHOL WITHDRAWAL¹

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The purpose of this study is to compare the use of paraldehyde alone, promazine (Sparine) alone, and a combination of paraldehyde and promazine in the treatment of the alcohol withdrawal syndrome.

This syndrome follows prolonged use of alcohol and includes anxiety, agitation, tremor, loss of appetite, and insomnia. Other more severe symptoms that may be present are nausea and vomiting, convulsions, and delirium tremens. Experimental work confirming this view of the alcohol withdrawal syndrome is presented by Fraser(1) and Wikler(2).

Delirium tremens was diagnosed in this study when the patient manifested simultaneously, while he was in the hospital: 1. Hallucinations and/or delusions; 2. A sensorial deficit. Alcoholic hallucinosis, which differs from delirium tremens by the absence of the sensorial deficit, was excluded from this study. I feel, as do many others, that alcoholic hallucinosis is a release of an underlying psychoses rather than a symptom of alcohol withdrawal. Bleuler(3) gives a description of the peculiar nature of the hallucinations of the patient with delirium tremens and indicates how they differ from those of alcoholic hallucinosis. He points out that the combination of anxiety with euphoric humor (grim humor) is a pathognomonic sign of delirium tremens. He states that when auditory hallucinations are present the diagnosis of schizophrenia must always be considered. Finally he finds in patients with alcoholic hallucinosis that a long-standing schizophrenia is invariably present.

Convulsions during the period of withdrawal were of particular interest because,

although not a frequent complication, they are a serious complication. Also, there have been indications in studies by Szatmari, Barsa, Reinert and Fazekas, that the use of phenothiazine derivatives increases the possibility of convulsions(4-7).

There have been many treatments of the alcohol withdrawal syndrome. Romano(8) reviews the early studies on delirium tremens and the concepts of its etiology and therapy. Block(9) reviews current therapies of the alcohol withdrawal syndrome and emphasizes the value of the phenothiazine derivatives. The more recent literature describes the use of both the phenothiazine derivatives and other agents(10-17). Friedhoff and Zitrin(13) indicate that treatment with the phenothiazine derivatives or with paraldehyde is equally effective. Also, in view of some clinical impressions that I had regarding seizures as a complication of phenothiazine therapy, I wished to evaluate this problem in the treatment of the alcohol withdrawal syndrome with the various drug therapies used in our study.

MATERIALS AND METHODS

The Monroe County Psychiatric Hospital Unit is a diagnostic unit where patients are admitted for short-term screening and diagnosis of psychiatric illnesses. The Unit also admits alcoholics on a voluntary basis from the community and under commitment from the courts and jails. Alcoholics constitute about 450 admissions per year or approximately one-third of our total admissions. Men comprise most of these alcoholics and our study was limited to men only. The bulk of the alcoholics from the community seek admission to terminate their alcoholic episodes, usually because they are in physical distress. The courts and jails send alcoholics that are too sick medically or psychiatrically for their facilities. The function of the Unit with respect to the alcoholic is to terminate the withdrawal syndrome, and then the patient is referred to his private physician, the alcoholism clinic, alcoholics anonymous, or returned to the court or jail. There is no

¹ Drs. Orris Clinger, Elmer Gardner, Gerald Claser, Harold Miles, and Holland Taylor assisted in the collection of data from patients and made many helpful suggestions. Drs. Elmer Gardner and Howard Iker helped with the statistical analyses.

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systematic psychotherapy in the hospital although an attempt is made to maintain a psychotherapeutic attitude among personnel.

On admission, each patient had a physical examination and routine laboratory work, and during his hospital stay was seen repetitively by both internists and psychiatrists.

Patients were excluded from the study for the following reasons: 1. If they had a severe physical or psychiatric illness other than that due to the alcohol withdrawal; 2. If they were taking large amounts of other drugs; 3. If they were drinking less than 5 days out of the previous 10 days before admission.

All the patients admitted during the first 4-week period of the study were treated with promazine and paraldehyde. During the second 4-week period all were treated with promazine alone, and during the third 4-week period with paraldehyde alone. This rotation of treatment was then repeated, the study lasting a total of 24 weeks.

All the patients in all groups were given vitamin B complex intramuscularly for 3 days and multivitamins orally, daily while in the hospital. The basic orders, which could be varied to fit the patient's needs, were as follows for the different groups: 1. The promazine-paraldehyde group had an initial intramuscular injection of 100 mg. of promazine, followed by 100 mg. by mouth q.i.d. They also received 6 cc. of paraldehyde every 4 hours by mouth, as needed. 2. The promazine group had an initial injection of 100 mg. of promazine intramuscularly and then had 100 mg. of promazine every 3 hours by mouth, as needed. 3. The paraldehyde group had 6 cc. of paraldehyde by mouth every 3 hours, as needed.

A form was used for recording results, entering "yes" or "no" for the following categories: 1. Slept well; 2. Ate well; 3. Agitated and anxious; 4. Vomited; 5. Convulsed; 6. Confused; 7. Delusions and/or hallucinations.

Each shift of nurses recorded their observations on the form at the end of their shift. Thus in the course of the day the patients were observed by three different shifts of nurses. Six days a week the patients were seen by one of our two internists and their observations recorded. The internist saw all

patients on the days he made rounds and each internist made rounds 3 days per week. Each patient was also followed by one psychiatrist who saw his patients about 3 times per week and recorded his observations.

The study grew out of an interest of both psychiatrists and internists involved in the study, as to the relative effectiveness of paraldehyde and promazine in the treatment of alcohol withdrawal. The nursing staff were told of the study and its purposes and the recording of information was an extension of their nursing notes.

The measurement of the various categories was gross; if the patient slept continuously between midnight and 7 a.m. he slept well; if he cleared his tray, he ate well. Agitation and anxiety were recorded as positive if there were any indications of either on gross inspection. Confusion was positive if the patient was disoriented for time and/or place. Delusions and hallucinations were positive when observed in the patient while he was in the hospital. The day of discharge was determined by the psychiatrist and was primarily a reflection of the categories of sleeping, eating and anxiety, and agitation returning to normal. Also involved was the clinical judgement that the alcoholic had temporary control of his drinking.

RESULTS

During the 24-week period of the study, 222 patients with alcohol withdrawal were admitted to our Unit. Of these, 47 patients were excluded from the study (see Table 1). This group was 21% of the total (in-

TABLE 1
Number of Patients Excluded from the Study and
Reasons for Exclusion

Reason for Exclusion	Number of Patients
1. Other drugs before admission	5
2. Primary psychiatric illness	7
3. Severe medical illness	7
4. Not drinking sufficient time	11
5. Chronic brain syndrome	14
6. Left before study completed	3
Total	47

cluded was one patient from the promazine group who had had several seizures before admission. After admission he had several

more seizures with temporary respiratory arrest. Because of the severity of his illness, he was transferred to another hospital for acute care. Another patient included in this group had a seizure before medication and sustained a basilar fracture of the skull with subarachnoid hemorrhage. He was treated with paraldehyde and also was transferred to another hospital. Both patients survived but were not followed in our Unit and so were excluded from the study). Table 2

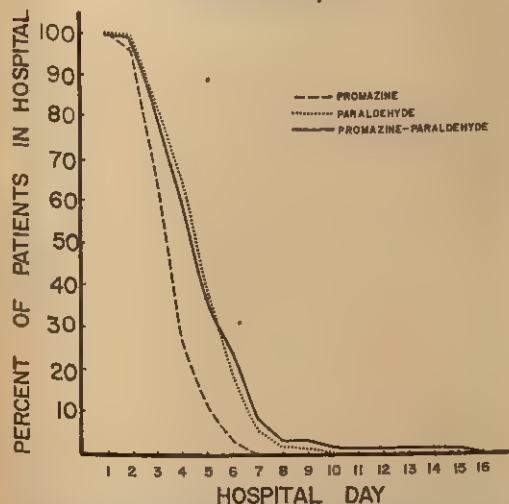
TABLE 2
Total Number of Patients in Treatment Groups and Numbers with and without Delirium Tremens *

	Promazine	Paraldehyde	Promazine-Paraldehyde	Total
Total patients withdrawal syndrome	57	56	62	175
Withdrawal syndrome without delirium tremens	44	47	45	136
Withdrawal syndrome with delirium tremens	13	9	17	39

* The total number of patients (175) represents 157 individuals of whom 12 had two admissions, and 3 had 3 admissions.

shows the total number of patients studied in the various treatment categories. This is

FIGURE 1
Percent of patients in the hospital on each hospital day with different therapies *



* The hospital day number indicates the end of that day. The first day was of varying length, depending on the hour of admission. For purposes of compilation the day of admission was counted and the day of discharge was not counted.

broken down into sub-groups of alcohol withdrawal, with and without delirium tremens.

Figure 1 plots the per cent of patients remaining in the hospital at the end of each hospital day for the different therapies. It can be seen that the promazine group left the hospital earliest and that the paraldehyde and promazine-paraldehyde group follow approximately the same curve. At the end of the fourth day, for example, 28% of the promazine group, 66% of the paraldehyde group and 61% of the promazine-paraldehyde group were in the hospital. The average stay of the promazine group was 4.09 days and that of the paraldehyde group 5.18 days. When analyzed statistically there is a significant difference between the promazine and paraldehyde groups.³

Graphs with similar curves were obtained when the following categories were plotted: 1. Per cent of patients agitated and anxious on each hospital day with different therapies. 2. Per cent of patients sleeping poorly on each hospital day with different therapies. 3. Per cent of patients eating poorly on each hospital day with different therapies.

At the end of the fourth day, 12% of the promazine patients and 55% of the paraldehyde patients were anxious and agitated. When the paraldehyde and promazine groups were compared as to duration of anxiety and agitation, the promazine group showed statistically significantly shorter duration.⁴

Promazine was also found to be significantly more effective in controlling sleeplessness than paraldehyde.⁵ A similar difference was found in patients returning to normal eating patterns, with promazine being more effective than paraldehyde but not as effective as in the other categories.⁶

The groups of patients with delirium tremens treated with different therapies were graphed for days in the hospital and for duration of anxiety and agitation. These graphs were similar to those of the total groups. Under promazine therapy, there

³ $T = 4.30$ with 111 df. P is less than .01.

⁴ $T = 5.02$ with 111 df. P is less than .01.

⁵ $T = 3.15$ with 111 df. P is less than .01.

⁶ $T = 2.50$ with 111 df. P is less than .05 and greater than .01.

was earlier discharge from the hospital and earlier disappearance of agitation and anxiety but the difference was not statistically significant. In these cases again the statistical comparison was between the promazine and the paraldehyde groups.

Convulsions and Vomiting: In the combined groups, a total of 14 patients had seizures of the grand mal type. However, 2 patients had seizures in the hospital before any medication had been given and are not included in our figures. Table 3 shows

TABLE 3
Number of Patients with Grand Mal Seizures in
Various Treatment Groups

	Promazine	Paraldehyde	Promazine- Paraldehyde
Withdrawal syndrome without delirium tremens	2	2	0
Withdrawal syndrome with delirium tremens	3	0	5
Total number of seizures	5	2	5

the distribution of the seizures in the various groups. There is not a statistically significant difference between the various treatment groups.⁷

One of the promazine group had convulsions before admission and 2 convulsed a few minutes after receiving the initial injection of promazine. Most of the promazine seizure group were treated with barbiturates after they convulsed, but 2 were continued on promazine alone without further seizures. The paraldehyde and promazine-paraldehyde groups were treated only by increasing the paraldehyde, after seizures occurred.

Vomiting was approximately the same for all groups. There were 6 patients in the promazine group who vomited at some time during their hospital stay, 7 in the paraldehyde, and 7 in the promazine-paraldehyde group.

Clinical Impressions: A complication of promazine therapy that offered difficulty

was postural hypotension. This was very common and was manifested as "lightheadedness" and/or "dizziness," and occasionally a patient would fall to the floor. Blood pressures were not taken routinely as part of the study. However, when blood pressures were taken on patients with the above symptoms, the readings were found to drop markedly when the patient went from the lying to standing position. This was most prominent the first day or two of promazine therapy and would disappear at times without changing dosage or with lowering the dosage. We did not have to discontinue treatment on any patient because of hypotension.

All personnel involved with the patients found them much more manageable and cooperative without paraldehyde, whether it was given with or without promazine. With paraldehyde, patients were constantly asking for more and upsetting ward routine. Also, they were more agitated, wandered about more, and disturbed other patients. Overall, the ward was more disturbed and tense. Of the patients who had experience both with paraldehyde and with promazine alone, comments varied. Some patients preferred the treatment with promazine while others preferred treatment with paraldehyde.

COMMENTS

The results of the study indicate that promazine is preferable to both paraldehyde and promazine-paraldehyde therapy in the treatment of alcohol withdrawal. It should be noted that in the treatment of delirium tremens, there was not a significant difference between promazine and paraldehyde therapy, though there was a trend favoring promazine therapy. In the categories of early discharge, duration of anxiety and agitation, and time required to be eating and sleeping well, promazine by itself showed the greatest efficacy. In terms of ward management, all personnel agreed that problems were decreased with the use of promazine alone. With the use of promazine therapy, it seems to me that the majority of our patients could have been managed in a general hospital.

Convulsions were more frequent in both treatment groups in which promazine was

⁷ Comparing all three groups: $\chi^2=1.318$. P is greater than .5 and less than .7 with 2 df. Comparing the promazine and paraldehyde groups: $\chi^2=1.287$. P is greater than .2 and less than .3 with 1 df.

used, although not significantly so. This was a surprise for two reasons : 1. That convulsions are a symptom of alcohol withdrawal and accordingly, alcohol or a similar drug would seem the treatment of choice ; 2. That the tranquilizers, as indicated previously, seem to increase the likelihood of seizures.

Postural hypotension was a common problem with promazine with the main apparent danger being that of a hypotensive episode associated with a fall. In this study group, however, there were no known serious complications of hypotension. It should be noted that no routine measurements of blood pressures were made.

SUMMARY

A comparison was made of the treatment of the alcohol withdrawal syndrome with either promazine, paraldehyde or promazine-paraldehyde combined. 175 patients, 136 without delirium tremens and 39 with delirium tremens, were studied.

Promazine was found to be better than either paraldehyde or promazine-paraldehyde combined, in the categories of early discharge from the hospital, decreased agitation and anxiety, and return to normal eating and sleeping patterns.

When the delirium tremens group treated with promazine was compared with the group treated with paraldehyde, there was not a significant difference.

Vomiting was approximately the same in all groups. Convulsions were more frequent in the groups treated with promazine, but not significantly so. Postural hypotension was a frequent complication of promazine therapy.

Ward management of the patients who did not receive paraldehyde was easier than

of those who did receive it. It appeared that with the use of promazine many of the patients could have been managed in a general hospital.

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THE PUERTO RICAN SYNDROME

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In very recent years it has become a rather common practice both on the Island of Puerto Rico, in areas of the Continental United States such as New York City where there are large concentrations of Puerto Rican patients, and in the Armed Services where Puerto Rican troops are frequently seen medically, for physicians to make a diagnosis of Puerto Rican syndrome or "ataque." Indeed, although few articles have been written describing these syndromes in detail, most of these articles and the consensus amongst those who make the diagnosis regularly is that the syndrome is a cultural phenomenon which is especially prevalent in this particular group of people(1, 2, 3). It has also become a take-off point for at least one treatise upon the subject of social psychiatry or cultural psychiatry and has been linked with pleas for further understanding and investigation of cultural phenomena and their impact upon psychiatric disease(1).

The syndrome has been variously described but in general there are several criteria which are characteristic. Certainly the most prominent is the bizarreness combined with extreme fright, agitation and personal violence. The descriptions include syndromes mutism, pseudoepilepsy, violent movement, bizarre detached uncommunicative violent attitudes, self-mutilation, and the full range of psychotic behavior from posturing of a catatonic sort to coprophagia (2, 3). This is the most spectacular aspect of this syndrome and in this lies the key to understanding the confusion that has arisen with the evolution of this new term.

The following are sample case histories written from Rodriguez U. S. Army Hospital files. All of them were referred to the hospital with the diagnosis of "Puerto Rican syndrome."

Case 1.—The patient was a 23-year-old Army private who became acutely disturbed suddenly one day while sitting in his barracks. He got

up, ran around the room, jumped on everybody's bed, screamed and yelled and had to be restrained. In the process of being subdued, the patient became almost rigid, was breathing very heavily, rolled his eyes up so that only the whites were visible, foamed at the mouth and trembled all over. He was admitted to an Army hospital in the Continental United States where he remained for several weeks. During his hospitalization, there were several similar episodes somewhat milder but always marked by subsequent amnesia and mild confusion. From each of these episodes he experienced a complete and spontaneous recovery. During subsequent examinations, the patient reported that he had intermittent headaches and giddiness for approximately 4 years always in relationship to his feelings of anger. He stated that every time he seemed angry at somebody, the feelings would come over him. During subsequent examinations, the patient began to recollect that during the course of his training at his last station, prior to his hospitalization, he had become terribly angry at his sergeant who, he said, was unfair but towards whom he was not particularly paranoid. He detailed many complaints about the sergeant and with a great deal of anger. During the examinations, the patient again began to experience giddiness, headache, and had trouble finding words. When the subject was dropped and he was allowed to go back to the ward, he experienced a complete remission of his symptoms.

Shortly after being transferred to this hospital, the patient was discharged back to a trial of duty and very soon thereafter experienced an episode similar to the ones described above making it clear that he could not function on duty under ordinary conditions.

Subsequent information elicited from prolonged diagnostic interviews with this patient revealed that his symptom formation, prior to his entry into the service, was almost always exclusively centered around his anger towards his father and he described many relevant incidents. Indeed, during his trial of duty, described above, the patient had gone home on leave and experienced again angry feelings in relation to his father which he was able to describe in considerable detail before again experiencing his symptom in the interview.

This patient was evidently suffering from an acute dissociative reaction of an hysterical sort

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from which he recovered rather rapidly with proper treatment.

Case 2.—The patient was a 20-year-old Puerto Rican recruit who had gone AWOL for several days. He was brought to an Air Force base hospital on another part of the Island because he was running down the street with no clothes on and experiencing a great deal of anxiety, bizarre behavior and was screaming incoherently.

During hospitalization he settled down rather quickly and several attempts to send him home on convalescent leave were made. During each of these there was an exacerbation of the acute syndrome. At one time, while driving along the street in a public taxicab he tried to get out of the car at high speed because, he stated, he had a tremendous fear of staying in the car. He stated it was not the speed but that he just felt the need to get out and go home. During each of these acute exacerbations there was a great deal of violence and bizarre behavior, as noted above, associated with hyperventilation, anxiety, and confusion.

In later prolonged diagnostic interviews, it became clear that the patient was actively hallucinating almost continuously and that whenever he was away from home, he heard voices which told him terrible things were happening at home. Specifically, the voices were those of his mother who said that the furniture was being moved out of his house. As the patient was able to verbalize further, it became clear that his acute panic had been precipitated by concern over his wife's impending delivery of her first child and that many of the fantasies and delusions the patient talked about were related to this. He had fantasies of his wife running around with other men and was tentatively paranoid about everybody who had anything to do with her. He was particularly concerned with his relationship with his father from whom he was inadequately seeking financial help in order to finance the setting up of an adequate household. During the period of his acute upset, the patient was unable to verbalize coherently, had a flight of ideas and was grossly tremulous and obviously very much frightened. At times on the ward, he smeared feces all over himself and appeared almost catatonic. He was able to return home after several weeks hospitalization.

Here it is equally clear that the patient was suffering from an acute dissociative response which was part of an acute homosexual panic or an acute schizophrenic turmoil from which he again recovered in the course of time to his

premorbid state where psychosis was not grossly evident.

Case 3.—This patient had been AWOL from his unit for several days. Shortly after being apprehended by the military police, he was brought to this hospital, mute, uncooperative, violently twirling his arms around and hyperventilating. He refused to cooperate in examination procedures and intermittently cried profusely. He stated, in between periods of mutism, that he did not know who he was. He would pull his testicles and stated that he did this in order to see blood because he liked to see blood. He would occasionally hold his head as if he had a headache but there was no explanation of this forthcoming from the patient.

During the course of hospitalization, it was clear that he was not eating and another patient was asked to encourage him to eat. The patient gradually began to eat more although he only very slowly gave up his symptoms. His entire symptom pattern returned each time he was approached by a new interviewer and indeed when the question of his going back to duty was raised, he stated that he would burn all his clothing and made numerous threats about what he would do if this course of action was taken. At this point it became evident that the patient was malingering. When confronted with this, he became very angry, turned around to the patient who had been feeding him and said, "See, if you hadn't been so insistent I would have gotten away with it."

Here again the patient manifested much the same symptoms but was not suffering from a psychiatric disease as we know it but was feigning the so-called "ataque" for secondary gain.

Case 4.—The patient, a 19-year-old recruit, was admitted to the hospital confused, disoriented, moving his head back and forth, and hyperventilating. This episode subsided during the admission procedure, and when he was examined the patient stated that during his entire stay in the Army, he has been in continual trouble particularly for not carrying out orders. He stated that he had so many thoughts in his mind that, at times, he could not hear other people and was not aware that they were around. He stated that he hears people's voices but he is not sure what he hears. He later stated that for many years he had the feelings that there were people talking with him and they lived in his left ear.

Each morning, on awakening, he would go around the ward making bizarre gestures with both hands as if he were placing something from one position to another. As he became

more comfortable talking about this, he stated that the people in his left ear turned the world around each morning in order that he would not see them and that he was turning it back. He said that they have been doing this to him for many years. During his hospital stay, there were intermittent periods of inappropriate laughter and the patient indulged in various gestures that were incomprehensible to the ward personnel. He would respond to his hallucinations actively.

On questioning the patient's parents, it was clear that he had been withdrawn, isolated and had made some reference to the voices and the world being turned around many times, and that although symptoms had been present since he was about 13 or 14 years old he had never been so acutely upset as at the time of his admission.

This patient is a chronic schizophrenic, who was diagnosed as suffering from an "ataque" since he manifested almost the same symptoms as all the others so diagnosed, but who was found to be suffering an acute upset in his chronic schizophrenic illness.

Case 5.—The last patient was an 18-year-old recruit who was found wandering around the post on the night of his admission to the hospital. When an effort was made to talk with him, he began to fight and struggle hitting out at the persons who attempted to talk with him and struggling violently. He bit, kicked, and yelled and when finally apprehended became grossly tremulous, hyperventilated, foamed at the mouth and became mute. Following this, he appeared to make futile efforts to speak and would write incomprehensible symbols when offered a pencil and paper. The patient had recovered substantially by the next day and when questioned closely about what had been going on in the last several days, he stated that just prior to the period of his acute upset for which he had complete amnesia, he had failed his English language test after not trying very hard, primarily because he wanted to get out of the service and return to his father's farm where he was needed to work.

Subsequent interviews indicated a great deal of ambivalence about his return to work and it became clear that the conflict involved lay between returning to the protective but subservient position of working for his father and the independence of being in the service which he wanted a great deal.

This fifth example is very similar to the first in that the patient was neurotic but instead this time represents an acute conversion symptom.

All these cases were seen by several physicians as outpatients as well as inpatients before being referred to Rodriguez U. S. Army Hospital, psychiatric service. They were taken from a series of 400 patients seen during the course of a two-year period at this hospital. During this entire time, no patient was seen whose case was not readily diagnosable in terms other than Puerto Rican syndrome and no need was felt to use this term. Moreover, when these patients are considered in the situations under which they were referred to the hospital, it becomes evident why the tendency to invent a new name for a psychiatric syndrome based upon cultural phenomena is disturbing to the clinical psychiatrist.

These patients diagnosed as Puerto Rican syndrome represent the most diverse forms of psychiatric disease. Perhaps the major quality they do have in common is the fright they elicit amongst those who are unaccustomed to such phenomena in patients which usually stems from violence, the severe dissociation and the extreme momentary isolation of the patient involved in an acute psychotic process. Beyond this point, however, there are a very few similarities. To invent or use a term which tends to class all these individuals in one category poses the ever present danger, first of failing to be aware of what the real disease process is; secondly, the failure to understand the difference amongst these various syndromes makes it impossible to apply the appropriate means of treatment.

Certainly, efforts to help the patient in the past on the basis of the superficial diagnosis of Puerto Rican syndrome can have been successful only by accident and by reason of the relatively self-limited nature of the acute upset and not through calculated and effective maneuvers on the part of the physician. For instance, the man suffering from the acute dissociative reaction on a neurotic basis, who indeed is only momentarily psychotic, must be confronted with his disease very quickly and helped to accept responsibility for that which he is capable of accepting responsibility for. In Puerto Rican patients very often the issue in this situation involves the overwhelming awareness of the patient's own anger which, as in our patient above, lit up earlier unresolved

feelings with respect to anger and feelings towards his parents. He had never worked out his feelings with respect to his father and his anger towards his sargeant was quite clearly a displacement of these unresolved feelings. Every time the patient came close to awareness of his wish to kill his father, he had an acute "ataque" or dissociative reaction. Any effort to help this man must take cognizance of the fact that this is an acute effort to avoid responsibility for certain feelings, and help the patient acknowledge, accept, and bear responsibility for them in order that he might then go on to effective integration of the feelings as part of his total personality.

The second patient, who was suffering from an acute schizophrenic turmoil state or an acute homosexual panic, was clearly frightened in a way that only a person in an acute panic state can be frightened. He had clearly felt that he had died at the point of his acute upset. Any effort to treat this as a mature, genital situation and failure to see the oral dependent aspects, in relationship to the acute illness, would be a failure to basically understand what was happening to this man. Certainly if he were treated in the same way as a person suffering from the acute dissociative reaction or the acute conversion reaction, one could only make him sicker in that he was unquestionably a person with an overwhelmed ego attempting to deal with issues of a very primitive and primary nature. The approach to this man had to involve the combination of limit-setting and attempting to form a relationship over a reasonably long period of time before he could give up his psychotic process. In contrast, the neurotic suffering from the acute dissociative reaction who could re-constitute as soon as the demand that he accept responsibility for that aspect of his feelings he was clearly capable of bearing was made effectively enough through clarification, was a far different person and this attitude could only be taken to the patient suffering from the acute turmoil state.

With the third patient who was unquestionably malingering, the only appropriate move was the one which was made, namely that the matter was immediately clarified with the patient and he was discharged from

the hospital with the complete resolution of his symptoms.

The fourth patient, the chronic schizophrenic, who, in having an acute episode, was not becoming sicker but, if anything, making an effort towards dealing more effectively with people, had to be handled according to his special needs. If he were discharged from the hospital, as was the psychopath, or matters clarified with him as extensively as is necessary with the neurotic, and his symptom formation ignored as it had to be with the neurotic, he would unquestionably have withdrawn once again to his hebephrenic state and given up his awkward, abortive move in the direction of help. He also had to be separated clinically from the acute schizophrenic who was suffering from a turmoil state in that although many of the symptoms were bound to be quite similar, the chronic underlying disease must be recognized as the premorbid state and the efforts to reach out to people must be dealt with most specifically. The sick, awkward efforts in this case are not regressive phenomena but efforts to reach out, and must be treated as such along with the necessary efforts to limit-set and help the patient be less frightened.

Attempts to formulate the treatment and the theory behind the treatment of these various kinds of diseases above can only be partial here and involve many potential areas of disagreement. However, regardless of the school of psychiatry or the manner of approach to this problem, these are separate disease entities just as the patients are separate and the issues involved are unique to the patient even amongst the disease categories.

The danger here is over-generalization, over-simplification, over-modernization that takes us away from the patient. This is indeed a danger of social psychology or social psychiatry as a science⁽⁴⁾ in clinical practice in that as soon as one steps away from the individual patient in psychiatry, the individual is lost and the perceptions become inaccurate. This does not mean that generalizations or theoretical considerations should not be made but it does mean that they can only be used with the greatest care to maintain respect for the individual patient and his own dynamic disease process.

When cultures are considered and certainly the Puerto Rican culture may be considered along the lines that have been attempted with respect to the Puerto Rican syndrome, it becomes very clear that certain special aspects of the culture do have their effect upon the psychiatric health of many of the individuals concerned. However, in considering the individual patient, one discovers, for example, not that special disease entities are present but that the configuration of the phenomena which have been so universally observed in all peoples becomes somewhat colored by the culture. For example, one becomes aware, working with Puerto Rican psychiatric patients, that much of what is presented in the clinic or appears in the office in so many diseases centers around various aspects of anger as noted above. This is not unique but it is unquestionably a phenomenon that involved in so many of the acute, dissociative and conversion responses in the neurotic population of Puerto Rico the hostility towards an immediate object as a displacement, very much as in our first patient. In understanding these patients further, the connection with the underlying family structure is quite easily elicitable although the patients are, as might be expected, quite reluctant to delve into such matters without further conversion or dissociative phenomenon. In addition, in the other syndromes, particularly in schizophrenia, one sees an extraordinary number of people whose acute schizophrenic process was precipitated again by the inability to manage anger. This time, however, the anger lights up a much more prim-

itive process and even in those cases where the major issue was separation which is so often true with schizophrenic patients, one sees the medium of anger through which so much of this has become activated.

In summary then, it is felt that the Puerto Rican syndrome is a misnomer and that it is not a disease entity in itself but is rather distortion of certain useful perceptions in the area of social psychiatry. It would appear, from the experience at Rodriguez U. S. Army Hospital, that what has been called the "Puerto Rican Syndrome" in the past, is really a collection of various disease processes that tend to be superficially deceptively similar in a particular culture. The tendency to coin a phrase to fit a disease entity such as this in clinical psychiatry appears to be a confusion of social and clinical psychiatry which points away from the improvement of patient care and leads us, as physicians, further away from the facts concerning our patients.

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PSYCHIATRIC SYNDROMES, ANXIETY SYMPTOMS AND RESPONSES TO STRESS IN MEDICAL STUDENTS

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INTRODUCTION

An unusual opportunity presents itself in medical students to study the prevalence and nature of psychiatric disease. The generally high level of intelligence and verbal facility among students tend to make their observations about their experiences more incisive. Further, because of the numerous stresses inherent in the medical students' course of study, there is ample opportunity for them to observe the effect of these stresses on their personalities. It is possible to answer the questions of whether the symptoms produced by these stresses are the same as those of psychiatric syndromes, particularly anxiety reactions, or deserve to be classified separately. Such a study affords the chance to see the individuals prior to the time they have had psychiatric care, which might conceivably influence either or both the symptoms and the clinical course. In addition it is of interest to note the psychiatric status of a typical medical school class. These factors appear to bear directly on the individual's success in medicine and might be considered in screening for a career in this field.

This paper, then, is concerned with the incidence of psychiatric illness in a medical school class, aspects of its nature, the incidence of isolated symptoms and the question of the differentiation of anxiety reaction as a psychiatric diagnosis and the response to stress.

SUBJECTS AND METHODS

Forty of 86 sophomore medical students were selected for detailed psychiatric interview after the entire class had volunteered for study without remuneration. Selection was alphabetical by surname; the terminal 50 were selected and the first 40 reached by phone for appointments were studied. Thirty-five are male; 5 are female. Age

range at interview was 21 to 26, with mean, median, and mode all 23 years.

Interviews ranged from 1-3 hours and in each instance medical, social, educational, and psychiatric data were obtained by one examiner (FNP) who inquired specifically about psychiatric symptoms and illnesses in family members.

A standard interview outline was used to insure that questions were consistently asked concerning symptoms of every psychiatric syndrome save homosexuality. Positive responses to any question led to detailed queries in that particular area. For the purposes of this study 25 specific and open-ended questions were added to assess anxiety symptoms and behavioral responses to the stress of major examinations. In the course of the interview a mental status evaluation was made and recorded.

Each record was thoroughly reviewed by the authors in group session; a unanimous vote was required for psychiatric diagnosis. Diagnoses were made according to the Standard Nomenclature of Mental Disorders of the American Psychiatric Association. Specific criteria for the diagnosis of anxiety reaction are those of Wheeler, White, Reed, and Cohen(1); for manic-depressive reaction those of Cassidy, Flanagan, Spellman, and Cohen(2); and for alcoholism those of Jellinek(3).

The category of "undiagnosed, but psychiatrically ill" was used to include subjects who had a seemingly significant number of symptoms but did not fit readily into one of the major diagnostic categories listed above.

The classification of personality disorders laid down in the APA Handbook was not used in this survey, though a considerable amount of data was obtained which related to the subjects' personality traits.

The authors rated each subject on the 16 most common anxiety symptoms of Wheeler, White, Reed and Cohen(1); a scale was devised with ranges of 0-32 and each subject was scored for anxiety, and for anxiety to the

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threat of upcoming examinations. Other symptoms in response to stress were noted.

The family history of psychiatric illness was carefully assessed by the authors in joint session. Each subject had been asked if any blood relatives ("and by relatives we mean siblings, parents, grandparents, aunts, uncles, cousins, and others") had ever received psychiatric in- or outpatient care, had psychiatric illnesses, had nervous breakdowns, attempted or committed suicide, been regarded as peculiar, or had any evidence of mental illness. The family histories were either positive or negative. When positive an attempt to accurately assess the nature of the relatives' illness was made by assessing attending physicians' diagnosis, age at onset, chronicity, treatment, course, degree of recovery, symptomatology, *etc.* A tentative diagnosis, admittedly second-hand, was thereby obtained for relatives. Family history played no part in the diagnosing of the subjects.

The incidence of certain symptoms commonly associated with psychiatric illness was abstracted and tabulated for this population sample.

RESULTS

1. *Psychiatric Illness*: The subjects fell into 5 clinical categories (Table I): not psychiatrically ill; anxiety reaction; manic-depressive reaction; depressive type; chronic alcoholism; and psychiatrically ill but undiagnosed.

TABLE I
Psychiatric Syndromes in 40 Medical Students

	n	%
M-D depressive reaction	3	7.5
Anxiety reaction	1	2.5
Chronic alcoholism	1	2.5
Ill but not diagnosed	1	2.5
Total ill	6	15
Not psych. ill	34	85
Total group	40	100%

Anxiety Reaction

One subject met criteria for anxiety reaction. He admitted recurrent anxiety attacks at frequent intervals for at least the preceding 12 years; these attacks were marked by palpitations, breathlessness, rapid respiration, subjective feelings of smothering, and a feeling of impending death. These attacks occurred fre-

quently seemingly without cause but also often precipitated by closed places, crowds, church, or embarrassment in front of a group. Other symptoms reported by this subject were chest pain, easy fatigability, fear of authority figures, frequent tension headaches, dizziness and giddiness, sighing, shakiness, trembling, excessive sweating, easy flushing, irritability, frequent yawning, over-concern with responsibility, fear of snakes and insects, insomnia for 3 hours twice in life, and depressive spirits for "a day or so every now and then." His rating on an anxiety scale was 22 out of possible 32; on anxiety symptoms in response to the stress of examination he scored only 10 of possible 32. He ranked in upper quarter of his class; there were no other positive responses on history or mental status. His mother had been clearly depressed for the preceding 5 years after a lifetime without prior evident psychiatric symptoms or illness.

Chronic Alcoholism

The one subject meeting the criteria for this diagnosis gave a history of drunkenness at least once weekly for approximately 10 years. He began drinking in his early teens with a group of comrades 5-10 years older than he; members of this group were involved in "a couple of robberies" and "some used drugs" but "drag races were as far as it went" with him. His parents and spouse considered him an alcoholic and had remonstrated with him many times to stop drinking. He admitted repeated blackouts, some early morning drinking, and missing both school and work because of drinking. Additionally, he admitted mild anxiety symptoms, trembling and flushing with embarrassment, a sensitivity to sulfa drugs, epigastric pain with alcoholic ingestion, some impulsiveness "but never do anything serious without thought," and 30-90 minute initial insomnia nightly. He denied DT's, hallucinations, paranoid ideas, confusion, serious suicidal thoughts or attempts. On mental status he appeared somewhat guarded and deliberately vague even while admitting excessive alcoholic intake and "nervousness" which had led him to consider psychiatric treatment. This patient's mother had gotten "depressed periodically over the drinking"; he described her having several weeks of sleep disturbance, anorexia, weight loss, crying spells, and ruminative thinking with recriminations over his drinking even after his marriage and separate residence.

Manic-Depressive Reaction—Criteria for significant depressive episodes were met by 3 subjects.

The first had had a 6-month episode of depression the preceding school year; prior to that time he maintained he'd had no psychiatric symptoms and that they were entirely gone at interview. He found he "suddenly felt different from classmates" for 3 months; was unable to concentrate or retain information even though he spent many hours attempting to study; and felt blue, hopeless, and agitated. His appetite disappeared and he lost 15 lbs.; he had great difficulty getting to sleep and "tossed and turned all night." His school work fell precipitously near failure. Somatic symptoms included dull frontal headaches, "lump in the throat," trembling, shakiness, and "tense feeling" all over body relieved only by extreme exercise. He denied suicidal thoughts, alcohol or drug ingestion, or family history of psychiatric illness.

The second student had had several episodes of depression in the preceding 7 years but had managed to avoid psychiatric care and compiled an enviable scholastic record till about 4 months prior to interview when an episode of marked depressive mood with hopelessness, suicidal thoughts, retardation, ruminative thinking, anorexia with 10 lbs. weight loss, blurred vision, anxiety attacks, crying spells, palpitation and other somatic manifestations developed. Constipation and sleep disturbance were denied; an inability to feel rested or to get up in the morning were particularly troubling. Drug and alcohol ingestion were denied. Subject felt "nothing" in response to threat of upcoming exams "except already hopeless depression." This subject's mother had had several typical depressions with complete recovery between episodes.

Four years previously the third manic-depressive subject had had a 12-month episode of severe depression in which he was "unable to concentrate or study or think straight." He "lost interest in schoolwork and everything," "had to fight and work to overcome inertia," and his grades fell from A to C average for that one year. He suffered ruminative preoccupation with an auto accident, developed marked anorexia and constipation, lost 25 lbs., had marked sleep disturbance which was characterized by 3-4 hours initial insomnia and in-

ability to arise in the morning so that he often missed class. "The future looked black" and he contemplated suicide. At the end of one year he recovered completely from this syndrome and again did well academically till interviewed. At time of interview he was overtalkative, euphoric, talked for two hours about family and personal history, and described sleeping only 2-3 hours per night for prior 6 months during which time he had been dating frequently, reading many novels in addition to schoolwork, having interpersonal difficulties at home, and lost 25 lbs. In short, he was at least hypomanic. This subject's father and paternal grandfather had experienced episodes of the depressive phase of manic-depressive reaction with recovery.

III But Not Diagnosed

One subject described episodes of euphoria "without regard to facts" lasting several days every 1-2 months; he also reported experiencing 2-3 day periods of exhaustion and depression every 1-2 months. When depressed he reported withdrawing from all social and scholastic activity: "just sick of the whole mess." He reported frequent obsessive concern with routine problems, infrequent anxiety attacks and sleep disturbance, infrequent headaches, excessive sweating, but denied all other symptoms. A maternal aunt in her early 60's developed "persistent hoarseness without cause as far as doctors could tell," became withdrawn and peculiar, and "went through two lifetime memberships with Arthur Murray." The father was described as "very gregarious, cheerful, and active" in a constant round of conservation activities in spite of a 100% government disability pension awarded because of chronic pulmonary tuberculosis. This subject was felt to be psychiatrically ill but undiagnosable at present.

2. *Family History of Psychiatric Illness:* Data for psychiatrically ill and not psychiatrically ill subjects are presented in a 2 by 2 table (Table 2). Fisher's exact probability formula for paired data gives probability of 0.0001, indicating that a positive family

TABLE 2

	POSITIVE FAMILY HISTORY	NEGATIVE FAMILY HISTORY
Psychiatrically ill subjects	5	1
Not psychiatrically ill subjects	9	25

TABLE 3
Diagnosis of Family Members with Psychiatric Syndromes

RELATIVES OF 6 ILL SUBJECTS	ILLNESS AS BEST WE CAN DETERMINE
1. Mother	Manic-depressive reaction
2. Mother	Depressive reaction, M-D or reactive?
3. Mother	Manic-depressive reaction
4. Father & paternal grandfather	Manic-depressive reaction
5. Father	Undiagnosable,
Maternal aunt	Undiagnosable
6. One subject no family history of psychiatric illness	
RELATIVES OF 34 SUBJECTS NOT PSYCHIATRICALY ILL	
1. 25 subjects negative family history of psychiatric illness	
2. Paternal uncle	Schizophrenic
3. First cousin (paternal)	Schizophrenic
4. Maternal grandmother & mother	both cyclic manic-depressive reaction
5. Maternal grandfather	Manic-depressive reaction
6. Great uncle, maternal	Manic-depressive reaction
7. Maternal aunt	Manic-depressive reaction
8. Paternal uncle	Alcoholic
9. Paternal uncle	Alcoholic
10. Maternal uncle	Alcoholic

history for psychiatric illness is quite reliably associated with having a psychiatric illness in this study.

The ill relatives of ill subjects were genetically closer than those of well subjects and different diagnoses predominated as depicted in Table 3.

Anxiety ratings. The 16 most common symptoms (Table 4) of anxiety neurosis as reported by Wheeler, White, Reed and Cohen(1) were utilized to rate the entire group of subjects for anxiety; scale range was 0-32, scores ranged from 0-22 with mean of 3.9 and mode of 0. An identical scale was used to rate the subjects on these symptoms in response to pre-exam stress; here the score ranged from 0-22 with mean of 7.3 and mode of 8.

The anxiety ratings were compared with responses to stress of upcoming examinations. This was tested by a rank-order correlation for the entire group and a rho of

0.35 was obtained, indicating little relationship between these symptoms in this group before exams and at other times.

When anxiety ratings of the psychiatrically ill subjects and the responses to stress before exams were separated from those not psychiatrically ill (Table 5) interesting differences are immediately apparent.

Thus it would appear that ordinarily the psychiatrically ill subjects had many more anxiety symptoms than those not psychiatrically ill, but that no increases occur in anxiety symptoms for the psychiatrically ill prior to major examinations. Before exams, however, the well subjects developed anxiety symptoms with group incidence not very different from those found at all times in the ill subjects.

The additional symptoms of sudden appetite change, frequent small bowel movements, urinary urgency and/or frequency, nausea or "queasiness," and confusion were

TABLE 4
List of Anxiety Symptoms

1. Anxiety attacks	9. Paresthesias
2. Headache	10. Trembling
3. Chest pain	11. Shakiness
4. Palpitation	12. Weakness
5. Dizziness	13. Fears
6. Dyspnea, breathlessness	14. Trouble sleeping
7. Tiredness, easy fatigability, fatigue	15. Depressed, discouraged
8. Sighing	16. "Nervousness"—apprehension

TABLE 5
Mean Anxiety Ratings

	ANXIETY SYMPTOMS	RESPONSES TO STRESS OF EXAMINATION
Psychiatrically ill (n=6)	10.5	9.5
Not psychiatrically ill (n=34)	2.4	7.0

responses to stress of exams reported in equal frequency by both psychiatrically ill and well subjects. On 0-10 rating mean for ill was 5.7 and not ill was 4.6.

On an anecdotal level, the one anxiety neurotic in our group reported half as many anxiety symptoms in pre-examination periods, stating that they were "not upsetting and a relief because I can work and do something about them by working."

Comparison of the incidence of symptoms characteristic of anxiety neurosis reported by our subjects with those reported by White and Cohen(1, 4) for anxiety neurotics, controls, and "scared soldiers" (Table 6) demonstrated that ordinarily our group resembled the control population. In response to stress or threat of upcoming major exams they resembled "scared soldiers" rather than anxiety neurotics.

Other Psychiatric Symptoms. The group incidence of certain other symptoms and behavior often found in psychiatric illness is tabulated in Table 7.

Many of these require clarification. The occurrence of these at any time in life was

TABLE 7
Frequency in Percent of 40 Subjects

Dream	87.5%
Nightmares	20 %
Syncope	32.5%
Loss consciousness	47.5%
Auditory hallucinations	56 %
Phobias	30 %
Obsessions	10 %
Compulsions	7.5%
Suicidal thoughts	22.5%
Any use alcohol	85 %
ever drunk	50 %
blackouts	7.5%
Drugs' usage	20 %

accepted as positive response. Loss of consciousness include syncope and trauma but not anesthesia. Auditory hallucinations invariably meant hearing name called in corridor, crowd, or other situation—nothing more marked than this was reported. Fear of dark qualified as phobia even though subject reported this didn't discomfort him unduely. Suicidal thoughts included 3 examples of serious consideration and 7 of reportedly idle reflections on order of "what it would be like." Obsessions and compul-

TABLE 6
Percentage of Group Reporting Symptoms

	WHITE AND COHEN(1, 4)			THIS STUDY N=40 MEDICAL SCHOOL SOPHOMORES	
	ANXIETY NEUROTICS(4) N=74	102 CONTROLS(1)	BEING SCARED(4) N=50 SOLDIERS	ANXIETY SYMPTOMS	RESPONSES TO STRESS OF EXAMINATION
Dyspnea	99	12.7	28	7.5	25
Palpitation	92	8.8	82	12.5	42.5
Irritability	91		32	20	60
Dizziness	86	15.7	16	12.5	2.5
Insomnia	84	4.0	36	15	37.5
Faintness	82	11.8	20	12.5	2.5
Weakness	81	3.0	56	0	5
Chest pain	77	9.8	2	10	0
Trembling	74	16.7	72	22.5	40
Headache	71	25.5	16	7.5	2.5
Anxiety attacks	70	3	14	12.5	10
Anorexia	55	3.0	34	2.5	37.5
GI symptoms	45	0.0	4	12.5	42.5
Urinary frequency	42	2.1	64	5	70
Syncope	41	16.8	0	32.5	0

sions had to do with such things as excessive neatness, concern that doors locked at home and lights off; however, ruminative depressive thinking accounted for 3 of 4 instances of obsessions.

DISCUSSION

Psychiatric Illness. The 15% incidence of psychiatric illness in this group of 40 sophomore medical students is not, in itself, startling, but the distribution is not that previously reported for such samples. Heath (5) reported 75 of 100 cases in a Health Service (composed mainly of medical students and professional personnel) to be schizophrenic. In our small sample we found no schizophrenics; indeed only 2 cases of schizophrenia have been seen in Washington University Medical students in the past 16 years.

White, Cohen and associates(1, 4) suggest an overall urban incidence of approximately 5% for anxiety neurosis and have indicated that much higher incidences might be found in educational settings; certainly one anxiety neurotic out of a sample of 40 (2.5%) is not significantly different from this 5%.

The diagnosis of chronic alcoholism in a 23-year-old student implies a guarded professional and medical prognosis; at time of interview this subject was in serious academic and marital difficulties and subsequently withdrew from school. It was not until several months after the interview that his behavior brought him to the attention of the psychiatric service. Saslow(6) reported no alcoholism in 200 medical students seen by the psychiatric service of Washington University from 1944 to 1956.

The prevalence of manic-depressive disease is approximately 0.5% for the general population(7), but other writers(8, 9, 10) have suggested that only one in 3 to 5 instances of endogenous depression is accurately diagnosed. The 7.5% incidence of manic-depressive reaction in our sample is more in keeping with this latter idea; certainly 2 of our 3 subjects so ill were undiagnosed prior to interview.

As stated in the introduction our subjects should be considered reliable informants by reason of intellect and training. The differences found in positive family histories

of psychiatric illnesses between ill and well subjects is highly significant on a statistical level but the degree of closeness of relationship of these ill relatives is perhaps equally important. The ill subjects giving positive family history (5 of 6) all reported that at least one immediate relative (parent) evidenced symptoms of psychiatric illness. None of the relatives was examined so that our diagnoses are only tentative but a striking difference in their quality can be noted (Table 2). Thus, it appeared that psychiatrically ill second-degree relatives (aunts, uncles, cousins) suffered such diverse illnesses as alcoholism and schizophrenia, while manic-depressive reaction is the only likely diagnosis for relatives of these ill subjects.

Our attempt to demonstrate a relationship between anxiety symptoms in ordinary life and those in response to psychologic stress by means of a rating scale and rank-order correlation resulted in a rho of 0.35 which indicates that these "anxiety" symptoms are of quite different populations (or nature). The evidence that mean anxiety ratings for the psychiatrically ill do not change with stress but that mean ratings for the well subjects approach those of the ill with stress, after having been initially quite different, further supports this idea. This might lead some to such suggestions as "the psychiatrically ill are obviously under constant stress—hence the anxiety"; against this we cite the negative rank-order correlations and the anecdotal description of qualitative difference reported by our subject with anxiety neurosis.

The comparison of the incidence of anxiety symptoms in our group with those found by Cohen and White(1, 4) in their anxiety neurotics, controls and "scared soldiers" was made to corroborate our impression that ordinarily our group represents a normal or control sample but that with stress of upcoming exams it shifted toward that of the "scared soldiers." The qualitative and quantitative differences between threat of combat and medical school examination account for the discrepancies in incidence of certain of the symptoms reported.

The difference between the configuration of symptoms of anxiety neurosis and those seen as a response to the stress of examina-

tion should not be neglected. It has been suggested that each attitude is intimately connected with a group of specific physiological responses and evidence may be adduced to support this contention (11, 12). Just as it would be expected that sexual stimuli would produce different physiological responses than a death in the family or the joy over a fortuitous event, so might it be expected that the stress of examination would be associated with quite different attitudes and physiological responses than those seen in a paratrooper ready to jump out of a plane (the "scared soldiers") or a patient with anxiety neurosis. There is clearly an area of overlap but there is also an area of differentiation. Sexual excitement in the male, for example, is associated with rapid pulse and increased respiratory rate as well as genital changes, whereas anxiety neurosis is characterized by the presence of the first two of these symptoms but not of the third.

Utilizing our own data as well as those of the White and Cohen study on anxiety neurosis and "scared soldiers" we note a marked increase in the incidence of dyspnea, dizziness, faintness, chest pain, headache and syncope in the patients with anxiety neurosis as opposed to those subjects responding to examination or the "scared soldiers." The differentiation between the "scared soldiers" and the students responding to examination is less striking but there appear to be differences in palpitations, weakness, trembling and G.I. symptoms.

The high incidence of symptoms commonly considered of psychiatric import such as dreams, nightmares, syncope, hallucinations, phobias, obsessions, compulsions, and suicidal thoughts was tabulated to substantiate their ubiquitous nature and to re-emphasize that it is the quality of the symptom rather than the occurrence which indicates psychiatric illness. The use of alcohol was of high incidence but of little importance to all but one of this relatively young population. Twenty percent of the subjects used large doses of caffeine or dextro-drine when studying for exams, but at no other times; such ingestion could account for some of the "anxiety" symptoms at these periods but most subjects reported the same symptoms with or without their ingestion.

CONCLUSIONS

1. A random sample of 40 sophomore medical students out of 80 was given structured psychiatric interviews.

2. Six (15%) of the group were psychiatrically ill; of these 3 were manic-depressives, one an anxiety neurotic, one a chronic alcoholic, and one ill but undiagnosed.

3. The psychiatrically ill subjects had an incidence of positive family history of psychiatric illness that was markedly greater than that of the well subjects; this difference was statistically significant to the 0.0001 level. In addition, the ill relatives of ill subjects were not only genetically much closer than those of the well subjects but appeared to suffer different illnesses.

4. Anxiety symptoms did not increase in pre-exam periods in the psychiatrically ill; but those of well subjects, previously quite different, approached those of the ill in pre-exam periods.

5. Anxiety ratings in ordinary circumstances do not correlate with those of pre-exam periods for the group.

6. In ordinary circumstances our group resembled a control population rather than anxiety neurotics in terms of incidence of anxiety symptoms. In pre-exam periods the group resembled the "scared soldiers" reported by Cohen, White, *et al.* Differences, however, were present.

7. The incidence of psychiatric symptoms such as dreams, nightmares, hallucinations, suicidal thoughts, and phobias was quite high in our subjects but the quality of such symptoms was innocuous in all but the 6 ill subjects.

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THE PSYCHIATRIC PATIENT AS HIS OWN HISTORIAN

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In these days of advanced techniques, psychiatric examiners have gone beyond a patient's verbalizations in their search for material of diagnostic importance. Various other means of self-expression have been tapped, such as drawing, playing, and singing. We feel that the patient's writing, when adequately focused and thoughtfully studied, can yield fruitful data for diagnosis. We have special interest in forms for gathering social history information.

But when would a social worker use a form to gather social history data? Is not one of the main techniques and skills of a social worker his interviewing ability?

This reaction is somewhat typical, and it has prevented social workers from developing good history questionnaires. In this article we hope to present the pros and cons of using such questionnaires. Further, we will include many of the questions we have used in our various history-gathering questionnaires with the hope that our experience will stimulate professional interest in this tool or technique. Psychiatrists in private practice have used social history forms in an effort to save their own time and the patient's money. An inadequate questionnaire is certainly of limited value and could possibly be harmful to later psychotherapy.

Our social history questionnaire came out of the need to handle a heavy work load with a minimum of fully trained personnel. The authors worked for 2½ years in the psychiatric department of a military hospital with about 120 full patient beds (average patient stay was about 45 days). We also participated in a fairly large outpatient psychiatric clinic. The professional staff consisted of 9 psychiatrists, 2 psychologists, and 2 social workers. In the social work section we had approximately 4 partially trained technicians. A complete diagnostic evaluation and disposition was the main focus of our inpatient psychiatric facility. A detailed

and accurate social history was of prime importance in fully evaluating our military patients. Many members of our professional staff were frankly skeptical that a social history questionnaire would be of any value. Therefore, our present questionnaires have undergone a "baptism through fire" in staff discussions and in trial and error use with our patients and their relatives for over 2 years.

Prior to going into the more concrete aspects of our pro and con discussion we will briefly attempt to answer our main introductory question. If social workers and psychiatrists are frequently opposed to questionnaires, as our recent experiences have shown, we must ask why. Among the many possible answers we have found are that the therapeutic orientation of social workers combined with their rather arduous training in sensitive diagnostic interviewing may predispose their using only the tools with which they are most familiar. Thus when called upon to fill their role in a diagnostic setting, they are sometimes prone to slow things down with long and careful explorations. We believe that this, unfortunately, means that they are missing an opportunity to better use their time, which leads into the first and probably most important of our "pro" arguments.

PRO SOCIAL HISTORY QUESTIONNAIRE

1. We believe that social history questionnaires save time. Where time is an important factor this advantage may be of critical importance. Many of us have had to establish treatment priorities from referrals with a history gleaned from a brief half hour or hour contact with the patient or his relative. Frequently, it is only possible to obtain factual information, or perhaps, a hurried and anxious explanation of what is considered to be the most pressing problem. This is operating under quite a disadvantage, but it is a situation with which most of us are very familiar. We have developed a high degree of sensitivity to the subtleties of the human personality and the interview-

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ing process in order to make the best use of our time.

We have found that the social history questionnaire can serve as a good starting point for a detailed life history or it can add a valuable perspective to the patient's immediate problems. The time saved by using a questionnaire can be used to see more patients or more thoroughly evaluate those we are presently seeing.

2. The questionnaire offers a standardized method for gaining prime material. Familiarity with the form and the comparison of numerous responses enables the worker to gain a wealth of information aside from the factual answers. Just as an interview has the added features of non-verbal communication, gestures, tone, expressions, blocking ; so a written document has its erasures, pressures, omissions, evasions, and completion time(6). Much of this material can be further explored by the worker in the follow-up interview.

3. Good questionnaires have a built-in supervisory feature. This is especially important in the military where one makes extensive use of social work technicians. They give the technician a structured base for interviewing some patients. They also give the supervision and added control, because dynamic personality variables can readily be postulated from the factual questionnaire information. One can be assured of a history with a certain comprehensiveness and quality.

4. Life history forms may keep patients constructively occupied. Where patients are hospitalized with little to keep them busy for long periods of time, or where agency waiting lists are long, this can be a therapeutic boon. On occasion we have asked selected patients to write a lengthy and detailed autobiography using the questionnaire as an outline.

5. Finally, there is the pragmatic argument that social history questionnaires *are* and *will be* used in some situations where time and personnel are limited. So we might just as well work to develop good ones.

these can be modified. The two main objections are : 1. They are impersonal. 2. They are superficial. 3. Some felt that the questionnaires have patterned the patient's responses in a rigid, stereotypical fashion and thereby destroyed the spontaneity of later history-taking. There is a danger in writing something down that some persons will feel what they have written becomes irrevocably affirmed. 4. It was also believed by some that this rigidity could damage later therapeutic attempts. 5. Finally, a few felt that history questionnaires helped a patient prepare for psychological testing in such a way that he was better able to mask his personality symptoms.

All of these arguments have some validity. However, we have found that we can greatly diminish the impersonal and superficial nature of the questionnaire by a sensitive, personable introduction and administration, and by a good follow-up interview by the historian. Further, our psychologists have tested 90% of all the patients that have received the questionnaire and have reported no deleterious patterning or rigidity that could be attributed to the questionnaire. We have found that patients having a paranoid or a passive aggressive diagnosis tended to give bare factual information. These same patients occasionally refused to answer the questionnaire. While this is a limitation, here again the productivity of the instrument can be raised by anticipating this problem and correcting for it in a good introductory and follow-up interview.

The very impersonality of a form can be an advantage in certain cases. Where the patient is fearful of interpersonal contact, the objectivity of a form may provide a less threatening medium for self-expression. This however, is more the exception than the rule. Finally, it should be noted that the history questionnaire is not meant to replace the psychiatric interview wherein the here-and-now of adjustment and personality dynamics are probed. Rather the questionnaire is mainly intended to supply factual background information with as much feeling tone as can be coaxed from a patient by a form.

THE ARGUMENTS AGAINST SOCIAL HISTORY QUESTIONNAIRES

Of course, the use of history questionnaires has its negative features. Some of

DEVELOPMENT

The first step in the development of tech-

nique is a study of the purpose for which the technique is intended. Our purpose was diagnostic. Could the men be retained in the military? If not, under what provisions and with what benefits ought they to be discharged? The questionnaire must help fulfill the purpose of the hospital or clinic. Thus an all-purpose history questionnaire would probably be undesirable. The questions contained might differ from clinic to clinic, from year to year, dependent always on the purpose.

Our next step was to review the literature (1, 2, 3, 4, 5). We also wrote to a number of state hospitals and many agencies for copies of their forms. Then we gathered all the questions we thought might prove useful and administered them to a group of about 20 patients having mixed diagnoses. We modified the questionnaire and again administered it.

Our questionnaire has developed into its present state through 4 major revisions over a period of 3 years. To encourage informality we have attempted to keep a conversational tone throughout, and have entirely eliminated the purely projective questions found in our earlier versions. Further, we have noted the trend through our revisions to ask more specific questions and request more specific answers. This counteracts an earlier tendency to ask several stimulating questions in a group and then leave a space open for a discussion of the life area concerned, *e.g.*, parents, marriage, job. It was found that in this latter case, patients would avoid certain problem questions.

We call our social history questionnaire the SASH (Self-Administered Social History). In its present version it is 12 pages long with space left for answers. It is given in conjunction with a military medical history form, and we feel that we have had excellent results. We have given approximately 500 and know of no situations where it has caused any difficulties; there were less than 10 instances where cooperation was lacking to an extent to make the SASH worthless.

Later we modified the SASH for use with relatives where direct contact was impossible. In the good military tradition of abbreviation we called this modified version SQUARE (Social Questionnaire An-

swered by Relatives). The SQUARE is composed of 8 pages, but there is no accompanying medical history form. Again the results have proven gratifying. Using stamped return envelopes we have received a surprising 90% plus return on over 300 SQUAREs mailed out. The data returned were richer in quality and more extensive in quantity than what we had been receiving in the SASH. No doubt this was due to the fact that it was easier for one person to report on another. The SQUARE is presently undergoing a thorough item analysis and will be reported on later.

SUMMARY

The social history questionnaire is not a substitute for, nor can it be favorably compared to history-taking in a personal interview. Yet we feel that it is a legitimate diagnostic instrument in certain situations. That is to say, the questionnaire is preferable to sparse information gathered in a hasty manner or to no history at all. The time it saves, the prime material it offers, its built-in supervisory features, and its therapeutic possibilities may counterbalance the impersonality and superficiality of a form. We are presenting our SASH (Self-Administered Social History) in the hope that others will do likewise, and that certain optimum history questionnaires and questions might be developed.

APPENDIX

ADMINISTRATION

The SASH begins with a brief written explanatory introduction.

"The purpose of this form is to obtain a history of your earlier life. The information you are able to give will aid us in coming to a better understanding of you and your problems. Some of these questions may not apply to you. Others may be hard to answer. You will have to think about them. Take your time. Try to answer each question as accurately as possible."

The person administering the SASH spends approximately 10 minutes establishing a relationship and expanding on this introduction. For example, we might compare the SASH to an autobiography. Then the patient is left to complete the questionnaire. Ordinarily this takes from 45 minutes to 2 hours. When the patient has finished, the administrator goes

through the SASH with him and makes any clarifying additions in red pencil. This usually requires 5 to 10 minutes. When necessary, the SASH can be administered to groups, providing patients have a certain privacy in filling out the forms. We found that it was not a good idea to let the patients return to the psychiatric wards with the SASH. They usually produced less when filling out the SASH in the proximity of their wardmates.

SASH

The SASH begins with the usual identifying data. We have omitted these in the present article. However, we felt the questions we developed in the SASH might prove interesting to others. So we have reported them in full. In the actual questionnaire, sufficient room was left between the questions for the patient's written answers.

MEDICAL HISTORY

1. Tell us about your problem(s). Explain why you are in the hospital.
2. Have you ever needed or received medical care for a nervous breakdown, nervousness, emotional upset, worrying, or extreme sadness? Dates—Place—Type of Treatment and Condition.

MILITARY HISTORY

1. Describe briefly your military career. (If female, describe husband's military career since marriage). Dates—Base—Type of Duty.
2. Where did you enter service?—Why did you enter service?
3. What tour of duty did you like best? Why?
4. Tell us about any ribbons, letters of commendation, or decorations which you have been awarded. Have you ever lost rank, had a court-martial, or received an Article 15? Explain. Date—Award or Punishment—Reason.

FAMILY HISTORY

1. Father's age—Year parents married—.
2. Father's education (grade completed and year)—.
3. Father's job—Average salary—.
4. Tell us about your father, what kind of a man was he? Describe him. (Include habits, such as drinking, smoking or using drugs.)
5. What did your father do for recreation and relaxation?
6. Mention your father's attitudes toward religion.
7. Mother's age—Mother's education (grade completed and year)—.

8. Did your mother work? Years—Type of Job—Reason for working.

9. Tell us about your mother, what kind of woman was she? Describe her. (Include habits, such as drinking, smoking or using drugs.)

10. Mention your mother's attitudes toward religion.

11. What did your mother do for recreation and relaxation?

12. What nationality were your parents? Father—Mother—. Was a foreign language spoken in your home? What was it?

13. Name any step-parents or persons who took care of you as a child. Tell us how old you were then. Describe these persons.

14. Explain here any separations of your parents due to divorce, illness, death, etc. Give the year and reason.

15. When you were growing up, who disciplined the children in your family? How was it done? Give examples.

16. How did your parents solve family problems and differences? Please give an example.

17. Who handled the family bills, rent, food, car, etc.?

18. Tell us about your brothers and sisters. Names—Age—Marital Status—Occupation—If Deceased Give Year and Cause of Death.

19. Which brother or sister do you write or visit most often? Why?

20. With which brother or sister did you have the most problems?

21. With which brother or sister did you get along best? Why?

22. Who else lived with you besides your parents, brothers and sisters? How old were you then?

How did they get along with the family and how did you get along with them?

23. Have any family members had an emotional illness or a nervous breakdown? Explain.

24. Have any of your family members been severely injured or suffered from a physical handicap? Name—Relationship—Date—Type of Illness and Treatment.

CHILDHOOD

1. What kind of neighborhood(s) did you grow up in? Tell us what you thought of it (them).

2. About how many children were there around for you to play with *before* you went to school? What games do you remember playing at that time?

3. How would you describe yourself as a child? (quiet, active, shy, nervous, etc.).

4. Did you change while growing up?

Please tell us how old you were and why you changed.

5. Tell us about the games you played during grade school.

6. About how often did your family attend church?

7. What was the size of the town(s) in which you were raised?

8. If you lived in more than one town, which one did you like best? Why?

9. How many different houses did your family live in before you were 15 years old?

10. As a child, did you have a temper? What sort of things made you angry?

11. Did you cry much as a child? When you were in grade school, what things made you cry?

SCHOOL HISTORY

1. Tell us when and where you attended school from the first grade to the present. Dates—Name of School—City and State.

2. What kinds of marks did you get in school? (excellent, good, average, fair, poor). Grade school—, Junior High—, High School—, College or Technical School—.

3. Tell us about any special classes in which you have been, any grades you have repeated, or any grades you have skipped. Explain.

4. Describe your schooling and education. Mention any favorite teachers. Tell us your favorite subjects; also any subjects you had trouble with or did not like:

- a. Grammar School (grade and junior high)
- b. High School
- c. College or Technical School

5. List the extracurricular activities that you were in (sports, music, clubs).

6. What did you like about school?

7. What did you dislike about school?

8. Why did you leave school? What were your plans?

DATING AND MARRIAGE

1. How old were you when you began dating?

2. Tell us about your first date. Did you go alone? Where did you go? What did you do?

3. How frequently did you date as a teenager?

4. What did you like to do on a date?

5. Tell us what type of woman (man) you prefer.

6. Did you usually date women (men) who were younger, the same age, or older than you?

7. Tell us how you learned about sexual intercourse. When? From whom?

8. Tell us about your present marriage. Describe your spouse.

9. How long had you known her (him)—and when did you marry?

10. What do you enjoy most about your marriage?

11. Who handles the finances? (paying rent, food, car, etc.) Are there ever any difficulties over the arrangement? Explain.

12. What adjustments did you make after marriage?

13. Tell us about your children. Name—Birthdate—Sex—Grade in School or Occupation—Marital Status.

14. Have your children ever had any serious accidents or illnesses? Name—Date, Condition or Injury—Treatment or Outcome.

15. Which child seems to be the easiest to get along with? Why?

16. Which child seems to be the most difficult to get along with? Why?

17. Who disciplines the children? How is it done?

18. Have you ever lost any children through miscarriage or death? Please give dates and explain.

19. Tell us about any previous marriages. Date of marriage—and divorce.

20. Reasons for divorce.

21. Please list the name, age, and sex of any children of previous marriages.

JOB HISTORY

1. Tell us about the first job you had for which you got paid. What did you do with the money?

2. What was your usual civilian occupation?

3. What is your usual job in service?

4. Were the people on your last (or present) job easy to get along with? Please explain any problems with either the people or the type of work on your last job.

5. If you had a choice what kind of job would you like to have? Why?

6. Tell us about the jobs you held in civilian life. Dates—Type of work—Salary—Reason for Leaving.

PERSONAL ATTITUDES AND RECREATION

1. Tell us about any clubs or organizations that you belong to or have belonged to. Date—Name of Club or Organization—Offices held.

2. Tell us what you like to do for recreation.

3. Mention your attitude toward religion. Do you believe in God? How often do you pray, attend church? Explain.

4. Tell us about your personal habits, such as drinking, smoking, and using drugs. Mention when you started, why, and how much you drink, smoke, or use drugs now.

5. Mention any foods that disagree with you. Do you have any allergies?

6. Mention any trouble that you have been in with the law. Date—Place—Offense—Outcome.

7. Where would you go and what would you do if you were to be discharged from the service?

8. Has your present hospitalization created any problems in your family? Explain.

9. Tell us anything else that you have not mentioned about your feelings, friends, or life history that you believe is important.

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CLINICAL NOTES

(The Clinical Notes report the findings of the authors and do not necessarily represent the opinions of the Journal.)

A "DOUBLE BLIND" STUDY COMPARING RO 4-0403, TRIFLUOPERAZINE AND A PLACEBO IN CHRONICALLY ILL MENTAL PATIENTS¹

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LESTER H. RUDY, M.D., AND JACKSON A. SMITH, M.D.²

As the flow of new psychotropic drugs continues a comparison of these new products with established therapeutic agents is one method of evaluating their potential. The following "Double Blind" study compares a new drug RO 4-0403 (Taractan) with Trifluoperazine (Stelazine),³ an extensively used compound, and a placebo.

Thirty chronic female patients from a continuous treatment ward in a large state hospital, selected because of their aggressive or agitated behavior and the chronicity of their illness, composed the patient group. Their ages ranged from 22 to 60 years. All had been hospitalized for a year or longer with an average of 10.5 years (10 patients over 15 years). Twenty-four were diagnosed as schizophrenics and 6 were considered to be involutional psychotics.

The project was carried out as a "double blind" with a cross over. The patients were randomly selected and divided into 3 groups of 10 each, designated A, B and C; similarly preparation A was RO 4-0403 (Taractan),

was a placebo.

The groups received each preparation for a period of 1 month with weekly increases of dosage. The "cross over" was done at the end of each month and all 3 groups received each preparation for a 30-day period. Due to the disturbed state of the patients, only 48 to 72 hours was allowed to elapse between drugs. The two medications and the placebo were prepared in identical capsules. Neither the patients nor the observer were aware which medication was being given.

A research nurse, who was an experienced observer, utilized standardized evaluation forms previously described⁴ to record any change in the patients' behavior. She had been in contact with this group of patients and was familiar with their reaction patterns and behavior on and off the ward. In addition to weekly progress notes she made a complete control evaluation of each patient immediately prior to the start of the project and at the end of each month. A psychiatrist worked with her and evaluated side effects from the drugs: complete blood counts and liver function tests (alkaline phosphatase and thymol turbidity) were done weekly throughout the length of the study.

¹ This study was done at the Chicago State Hospital and the cooperation of Dr. H. Matlz, Superintendent, is appreciated.

² Staff of the Illinois State Psychiatric Institute, Chicago, Illinois.

³ Appreciation is expressed to the Smith Kline and French Laboratories for the supplies of trifluoperazine (Stelazine), and to Hoffmann-La Roche Inc. for RO 4-0403 (Taractan).
B was trifluoperazine (Stelazine) and C

⁴ Smith, Jackson A., Christian, Dorothy, Mansfield, Elaine, and Figaredo, Alfredo: *Am. J. Psychiat.*, 116: 392, Nov. 1959.

Dosage and Administration

	RO 4-0403	Trifluoperazine	Placebo
1st week	75 mg. daily	6 mg. daily	—
2nd week	150 mg. daily	10 mg. daily	—
3rd week	300 mg. daily	10 mg. daily	—
4th week	600 mg. daily	20 mg. daily	—

RESULTS

The patient's clinical response during the study was tabulated and the final results are shown in the following table :

	Worse	Change	Slightly Improved	Moderately Improved	Markedly Improved
Drug A (Taractan)	10	13	7	0	0
Drug B (Stelazine)	0	11	12	7	0
Drug C (Placebo)	13	16	1	0	0

The criteria used for evaluation was derived from observing a decrease or increase in the following variables of behavior : over hostility, tension, agitation, attempts to communicate, cooperation, friendliness, attention span and alertness, interest in personal appearance, mannerisms, participation in activities or a change in delusions and hallucinations. Patients considered slightly improved showed favorable change in 2 or 3 variables. Moderately improved patients showed this change in at least 4 or 5 variables. Marked improvement reflected change in 6 or more of the listed variables. No patient was considered markedly improved and a patient was considered worse if an unfavorable change was noted in 2 or more of the variables.

SIDE EFFECTS

No serious side effects were encountered with either of the 2 active drugs used. The following mild side effects were observed :

	Tremor and mild muscular rigidity	Drooping & Mask-like facies	Short period of increased agitation
Drug A (Taractan)	1	1	0
Drug B (Stelazine)	8	1	3
Drug C (Placebo)	0	0	0

The observed side effects with both active drugs were controllable with anti-Parkinsonian medication.

CONCLUSIONS

1. RO 4-0403 (Taractan) produced a beneficial response in 7 of a group of 30 extremely chronic psychotic patients. Those

patients who responded showed a decrease in agitation, appeared more friendly and expressed the subjective sensation of "feeling better." Undesirable side effects were observed in only 2 of the 30 patients treated. From these results it would appear that this compound can be safely and effectively used in acute psychiatric disorders.

2. Trifluoperazine (Stelazine) is a potent drug that is effective in reducing the symptomatology in chronic psychotic patients. In this study more than half the patients who received trifluoperazine showed a desirable change of behavior during the study but side effects were noted in 40% of those treated. These side effects usually appeared at a high dosage and disappeared promptly after the administration of anti-Parkinsonian drugs.

3. Since only 1 patient out of 30 showed a slight improvement while receiving a placebo, it is presumed that suggestion and

attention were of minimal importance in producing the changes observed with the active compounds.

CLINICAL OBSERVATIONS OF THERAPEUTIC EFFECT OF CHLORPROTHIXENE (TARACTAN) IN PSYCHOSES

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Reports appeared recently in psychiatric literature of therapeutic value of a new psy-

chopharmacological agent, chlorprothixene,² attributing to it both tranquilizing and anti-

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² Chlorprothixene was supplied by Hoffmann-LaRoche Laboratories, under trade name, Taractan.

depressant properties. Chlorprothixene has a chemical formula similar to chlorpromazine, except that nitrogen in the phenothiazine ring is replaced by unsaturated carbon atom.

The present report deals with observations made during the use of chlorprothixene for 2 to 8 months in 60 hospitalized psychotic patients. The following diagnostic categories were represented: schizophrenic reaction—50 patients; manic-depressive, depressed type—7 patients; mental deficiency with psychotic reaction—2; sociopathic personality with psychotic reaction—1.

Schizophrenic patients were subdivided into following types: paranoid 35, catatonic 5, hebephrenic 4, simple 1, and chronic undifferentiated type, 5.

The average duration of schizophrenic psychosis was about 6 years. Most of the patients had been previously treated with ECT and different phenothiazine drugs, but either failed to maintain improvement or did not improve at all.

Chlorprothixene was administered orally. The initial dose of 25 mg. b.i.d. was gradually increased to 200 mg. to 300 mg. b.i.d.; only 6 patients received maximum dosage of 600 mg. per day; in most cases 150 mg. to 200 mg. b.i.d. was sufficient. After what appeared to be maximum improvement the dosage was gradually reduced to a maintenance of 25 mg. or 50 mg. per day.

There were no cases of agranulocytosis, jaundice or skin rash. Transaminase tests, urinalysis and frequent blood counts were carried out in all patients, and showed no significant changes. There was no marked change in weight. Two patients had moderate hypotension, and when a third developed marked hypotension, the drug was discontinued for 2 days and then resumed at half dosage; his blood pressure returned to normal. Four complained of dizziness, but were able to continue with the therapy. Two developed mild extrapyramidal symptoms which had been easily controlled by Akineton. In no case had treatment to be discontinued because of side effects.

Chlorprothixene apparently produces tranquilizing and sedative effects in anxious and agitated patients, and also has antidepressant effect on apathetic and depressed patients. Generally improvement had been

gradual; no dramatic results had been observed.

Of the 50 schizophrenics 20 (40%) improved sufficiently to be released for convalescent care; another 13 (26%) made a fairly good institutional adjustment and began to participate in occupational and recreational activities; 17 (34%) showed only slight, or transient improvement and therefore classified as unimproved.

The results in non-schizophrenic patients were as follows: of the 7 manic-depressive, depressed patients 4 achieved remission, the other 3 were unimproved; the 2 mentally deficient patients with psychotic reaction became free of psychosis; the sociopath with psychotic reaction also recovered from psychosis after a few weeks on chlorprothixene. Four uncooperative schizophrenic patients and one manic-depressive, depressed had to be placed on ECT after a trial with chlorprothixene was unsuccessful.

The small number of psychotic depressions is not sufficient for statistical evaluation; however, it is our impression that it is not a drug of choice for treatment of deep psychotic depressions, since better results are obtained with ECT, MAO inhibitors, or imipramine.

SUMMARY AND CONCLUSIONS

Sixty psychotic patients have been treated with chlorprothixene for 8 to 32 weeks; most of the patients were chronic schizophrenics. Twenty (40%) schizophrenics improved or achieved a remission to be released for convalescent care; 13 (26%) improved sufficiently to participate in hospital social, occupational and recreational activities and 17 (34%) remained unimproved. The number of non-schizophrenic patients was too small to be statistically significant. Frequent blood counts and transaminase studies revealed no significant abnormalities; there were no cases of agranulocytosis, jaundice or skin rash; mild extrapyramidal symptoms developed in 2 patients, but were easily controlled with Akineton, and did not require discontinuation of chlorprothixene.

Both tranquilizing and antidepressant effects are gradual; no dramatic changes have been observed.

Chlorprothixene might be useful in treat-

ment of schizophrenic patients who have some depressive features, or become de-

pressed from large doses of other tranquilizers.

WITHDRAWAL OF MAINTENANCE ANTIPARKINSON DRUG IN THE PHENOTHIAZINE-INDUCED EXTRAPYRAMIDAL REACTION

WILLIAM MANDEL, M.D., AND W. A. OLIVER, M.D.¹

This study was conducted to obtain data concerning the recurrence rate of phenothiazine-induced extrapyramidal reactions following withdrawal of maintenance antiparkinson drug.

Sixty-three chronic schizophrenic patients from 5 continuous treatment wards comprised the patient sample. These patients were each receiving a phenothiazine² as well as a maintenance antiparkinson drug; the antiparkinson drug having been given for the control of phenothiazine-induced extrapyramidal reactions. A placebo and triphenidyl,³ the identity being unknown to patients and personnel, were randomly assigned to the patient population so that 2 out of 3 patients (41 patients) received the placebo and the third patient (22 patients) received triphenidyl. The unknown medications were abruptly substituted for the maintenance antiparkinson drug in dosages of 1 tablet t.i.d. (6 mg. of triphenidyl). Prior to the start and at frequent intervals during the study, the patients were assessed for clinical manifestations of the extrapyramidal reaction. When such manifestations recurred, the dosages of the unknowns were increased to 2 tablets t.i.d. (12 mg. of triphenidyl); if the reaction became more severe, the unknowns were discontinued and replaced with the previous maintenance antiparkinson drug. The duration of the study on the 5 wards ranged from 28 to 38 days, the mean being 34 days.⁴

RESULTS

Replacement of the unknown medication by the previous maintenance dosage of antiparkinson drug was not required in 24 of the 41 placebo-treated patients (59%) and in 21 of the 22 triphenidyl-treated patients. Clinical manifestations of the extrapyramidal reaction were controlled in the 18 patients in whom the unknowns were replaced by the previous maintenance antiparkinson drug.

DISCUSSION

The recurrence rate in the thioperazine-induced extrapyramidal reaction following placebo substitution for maintenance antiparkinson drug was reported (1) to be 80%. Thioperazine is a phenothiazine derivative which produces a rapid onset and high incidence of extrapyramidal reactions. These results are in contrast to a report (2) of a 21% recurrence in patients treated for chlorpromazine- and reserpine-induced extrapyramidal reactions. In this present study, the recurrence rate in phenothiazine-induced reactions following placebo substitution for maintenance antiparkinson drug was 41%. These differences are the result of the many variables in the study situations.

Depending on the clinical situation, maintenance antiparkinson drug is not required to prevent recurrence of clinical manifestations of phenothiazine-induced extrapyramidal reactions in from 20 to 80% of patients. Trials are recommended in which maintenance antiparkinson drugs are withdrawn and antiparkinson treatment restarted

¹ Respectively, Chief of Research, and Associate Superintendent, Napa State Hospital, Imola, California.

² The five phenothiazine derivatives were: chlorpromazine, fluphenazine, perphenazine, prochlorperazine, and trifluoperazine.

³ Placebo and triphenidyl (Artane) were supplied by Dr. William Sweeney, Lederle Laboratories.

⁴ Data on the age and sex of the patients, the

phenothiazine and maintenance antiparkinson drug and dosages, the length of prior treatment with these drugs, the days on which the unknown medications were increased to 2 tablets t.i.d. and were discontinued, are available on request.

only in those instances in which clinical manifestations of extrapyramidal reactions recur.

SUMMARY

A placebo was substituted for maintenance antiparkinson drug in 41 patients who had been given this medication for the control of phenothiazine-induced extra-pyramidal reactions. These reactions did not recur in 24 of the 41 patients (59%). Although recurrence rates will vary with different clinical situations, it is probable that a large

proportion of patients do not require maintenance antiparkinson drug for continued clinical control of phenothiazine-induced extra-pyramidal reactions. Trials are recommended to determine which patients should or should not continue to receive maintenance antiparkinson drug.

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RECURRENT THIOPERAZINE-INDUCED EXTRAPYRAMIDAL REACTION FOLLOWING PLACEBO SUBSTITUTION FOR MAINTENANCE ANTIPARKINSON DRUG

WILLIAM MANDEL, M.D., BESSIE CLAFFEY, M.D., AND
LESTER H. MARGOLIS, M.D.¹

This report describes the incidence and time of recurrence of the thioperazine-induced extrapyramidal reaction in 20 patients in whom placebos were substituted for maintenance antiparkinson drug. The results were obtained during a study in which a new antiparkinson drug (UK-738)² was evaluated.

MATERIALS AND METHODS

Forty chronic schizophrenic patients, 20 men and 20 women, receiving thioperazine² in sufficient dosage to produce extrapyramidal reactions and who were maintained on antiparkinson drug (triphenidyl) to control this phenothiazine-induced reaction were studied. All patients received thioperazine for 4 months and triphenidyl² for at least 3 months. The range of thioperazine daily dose was 4 mg. to 120 mg. (mean—31 mg.). The range of triphenidyl daily dose was 5 mg. to 20 mg. (mean—13 mg.). Ages of patients ranged from 18 to 59 years (mean—41).

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² UK-738 (N-ethyl-nortropine-benzhydrylether-hydrobromide) supplied by Sandoz Pharmaceuticals; thioperazine supplied by Ives-Cameron Company; triphenidyl (Artane) supplied by Lederle Laboratories.

A placebo and UK-738 were randomly assigned so that 10 men and 10 women received each preparation; the study was double-blind. Each patient was first clinically assessed for extra-pyramidal symptoms and signs. With the thioperazine dosage kept constant, the unknowns were abruptly substituted for triphenidyl in a dosage of one tablet t.i.d. Reassessments for extra-pyramidal reactions were performed daily. When symptoms recurred and were marked, the unknowns were replaced with the previous triphenidyl dosage; if symptoms recurred and were not as marked, dosages of the unknowns were increased to 2 tablets t.i.d. The study was concluded after 20 days.

RESULTS

Within 20 days, the 10 women and 6 of the 10 men (80%), in whom placebos were substituted for triphenidyl developed sufficiently marked recurrence of extrapyramidal reactions to necessitate resumption of their triphenidyl dosage. At the completion of the investigation, 3 of the 4 men were still receiving placebo, one tablet t.i.d., while the fourth was receiving 2 tablets of placebo t.i.d. In 4 of the 10 women, the recurrent reaction was so marked that the placebo was discontinued without prior in-

crease in dosage; the remaining 6 women and the 6 men had a more gradual recurrence and were first tried with 2 placebo tablets t.i.d. The time of discontinuation of placebo and return to triphenidyl is shown in Table I. Table II shows the time when

TABLE I
Day Placebo Was Discontinued
and Triphenidyl Was Restarted

No. Patients	Day						
	3rd	4th	6th	7th	10th	13th	16th
Women (10)	4		1	1	2	1	1
Men (6)		1		1	1	3	

TABLE II
Day Placebo Dosage Was
Increased to 2 Tablets t.i.d.

No. Patients	Day			
	3rd	4th	5th	9th
Women (6)	4	1		1
Men (6)	3		3	

the placebo was increased to 2 tablets t.i.d. By the fourth study day, the placebo had been discontinued in 5 patients and 7 patients were receiving 2 tablets t.i.d.; thus, 12 of 16 patients in whom the placebo was discontinued had recurrence in 4 days. The recurrent reactions were controlled with resumption of triphenidyl.

DISCUSSION

Despite many reports dealing with phenothiazine-induced extrapyramidal reactions, few have described the recurrence rate when maintenance antiparkinson drug was

stopped. Cahan and Parrish(1) reported recurrence in the chlorpromazine- and reserpine-induced parkinson syndrome after discontinuing antiparkinson drug in 17 of 83 patients (21%) stating, "the majority of patients with drug-induced parkinsonism, after a period, no longer need the antiparkinson drug they are receiving." Their results differ from ours but single studies cannot set limits for the universe of patients nor for many treatment situations, e.g., thioperazine is a phenothiazine which produces a rapid onset and high incidence of extrapyramidal reactions(2). Recurrence in specific situations can only be determined by clinical trials; such trials should clarify the relative need for maintenance antiparkinson drug in phenothiazine-treated patients.

SUMMARY

A placebo was abruptly substituted for maintenance antiparkinson drug in 20 patients who had previously shown evidence of a thioperazine-induced extrapyramidal reaction. Within 20 days of this controlled study extrapyramidal reactions reappeared in 16 patients (80%). The recurrence rate of phenothiazine-induced extrapyramidal reactions following withdrawal of maintenance antiparkinson drug will vary with different situations and their incidence can only be determined by clinical trial.

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TRANLYCYPROMINE AND TRIFLUOPERAZINE IN THE TREATMENT OF DANGEROUS HOSPITALIZED PATIENTS

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Thirty-one adult criminally insane male patients at Atascadero State Hospital (a maximum security hospital) who required close custody because of aggressive or com-

bative behavior were treated with tablets containing 10 mg. tranlycypromine, an anti-depressant, and 2 mg. trifluoperazine, a tranquilizer, for 3 months. These men, age range 23 to 65 years (average: 40 years), had been hospitalized for an average of over 2 years, and had not responded adequately

¹ Louis R. Nash, M.D., Acting Superintendent and Medical Director of the Atascadero State Hospital.

to previous therapy with various phenothiazine drugs, including trifluoperazine alone. Diagnoses varied (see Table 1) but all

ease (mitral insufficiency), suffered a heart failure and died during the eighth week of the evaluation but there was no evidence

TABLE 1

DIAGNOSIS	NUMBER	IMPROVEMENT				Worse
		Marked	Moderate	Minimal	None	
Schizophrenic reaction :						None in the study became worse.
Catatonic type	2	0	1	0	1 ^a	
Paranoid	8	2	2	1	3	
Chronic undifferentiated	2	0	1	1	0	
Schizo-affective	10	2	5	2	1	
Psychotic depressive reaction	5	0	3	1	1	
Reactive depression	1	0	1	0	0	
Manic-depressive psychosis						
Depressed phase	1	1	0	0	0	
Chronic brain syndrome :						
Post traumatic	1	0	0	0	1	
Cause unknown	1	0	1	0	0	
TOTALS	31	5	14	5	7	
PERCENTAGES		16	45	16	23	

^a Patient died after course of ECT during eighth week of evaluation.

were depressed or presented evidence of withdrawal and marked asocial behavior. Initial dosage for all patients was one tablet at breakfast and one at 4:00 p.m. All patients were observed daily by the technical staff and the ward physician and staff meetings were held every 15 days to review and discuss the progress of each patient, and to decide whether changes in dosage should be made or additional therapeutic measures introduced. In 8 patients who did not respond, and 12 who showed only marginal improvement after 2-4 weeks of therapy, the dosage was increased to 2 tablets, b.i.d. While no other psychopharmaceuticals were used, 9 patients also received electroshock therapy 6 weeks to 2 months after the study began.

At the completion of the study, 5 patients (one had received concomitant ECT) were markedly improved, i.e., complete remission of psychotic and depressive symptoms; 14 (2 had received concomitant ECT) were moderately improved, i.e., significant but incomplete remission of symptoms; 5 were slightly improved; and 7 (6 had received concomitant ECT) were not improved at all. Results by diagnosis are shown in Table 1. One of the patients who received ECT, a 32-year-old patient with catatonic schizophrenia who also had a cardiovascular dis-

ease (mitral insufficiency) or liver damage) in him or in any patient.

Although these patients had a history of aggressive and/or combative behavior, there was no acting out of symptoms, no increase in aggressive behavior, and no combative behavior appeared. The substantial improvement in 19 (61%) of these patients whose symptoms had been present for many months and who had not responded to previous therapy was surprising—particularly in view of the short duration of the study and limited doses used. However, while it is probable that beneficial changes would have occurred in more patients had we increased the dosage, it is probable that the incidence of side effects would have increased too.

As it was, side effects were reported by 10 patients. Transient insomnia or jitters was reported by 3 patients at a dosage of one tablet b.i.d., and by 6 at a dosage of 2 tablets b.i.d. These symptoms disappeared as treatment continued and no changes in dosage were necessary. One other patient in whom the dosage had been raised to 2 tablets a day began to complain of mild drowsiness during the ninth week. Although the drowsiness persisted it did not interfere with therapy, and the dosage was not reduced. There were no other side effects.

BEHAVIORAL EVALUATION OF IMIPRAMINE AND NIALAMIDE IN REGRESSED SCHIZOPHRENIC PATIENTS WITH DEPRESSIVE FEATURES¹

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VLADIMIR PISHKIN, Ph.D.²

This study was designed to test the effects of imipramine³ and nialamide⁴ in treatment of regressed schizophrenics with depressive features. These agents have generally been evaluated by global clinical impression (1, 2, 3, 4, 5, 6, 7). The present study employed objective measures of behavior change in addition to clinical judgments.

The subjects were 52 regressed schizophrenic patients characterized by at least three of the following features: 1. Psychomotor retardation, 2. Despondency-sadness, 3. Lack of interest, 4. Helplessness-pessimism, 5. Suicidal drive.

Milieu and over-all treatment program were uniform for all subjects. Subjects were divided into 4 treatment groups: imipramine (I), imipramine placebo (IP), nialamide (N), and nialamide placebo (NP). A double blind crossover design was employed. The 4 research medications were administered for 2 6-week periods with a 4-week intervening rest period. After the rest period nialamide and imipramine were exchanged in the drug groups and placebos exchanged in the placebo groups. The dosages for each sequence of 6 weeks were as follows: 1. 50 mg., 2. 100 mg., 3. 150 mg., 4. 200 mg., 5. 300 mg., and 6. 400 mg.

The subjects were evaluated by the MACC Behavioral Adjustment Scale (8, 9) on motility, affect, cooperation, communication and total adjustment. MACC evalua-

tions and independent clinical evaluations by a psychiatrist were made before and after the first 6-week treatment period, at the end of the rest period, and again at the end of the second 6-week treatment period.

The McNemar Test (10) for significance of changes was used to determine clinical and behavioral changes as functions of the 4 treatment conditions.

RESULTS AND DISCUSSION

The first drug phase. During the first 6 weeks each of the active drug groups significantly improved in clinical condition ($p < .005$) as measured by the psychiatrist's ratings. The imipramine group improved significantly in motility ($p < .05$). Improvement in affect was measured for the nialamide group ($p < .05$) and for the placebo groups, IP ($p < .01$) and NP ($p < .025$).

The rest period. When measures taken at the end of the rest period were compared with pretreatment measures the active drug groups no longer showed improvement in clinical condition. In contrast, both placebo groups had significantly improved in clinical condition, IP ($p < .05$) and NP ($p < .025$).

Clinical ratings differentiated the active drug groups from the placebo groups at the end of 6 weeks of treatment and again at the end of the rest period but with a reversal in relative condition of the active drug and placebo groups. The active drug groups lost their earlier gains over the rest period, but the placebo groups were improved at the end of the rest period. It appeared the milieu had a slower but more lasting effect on the placebo patients who operated without the crutch of active medication.

The second drug phase. At the end of the second drug phase clinical evaluations again differentiated the drug groups from the placebo groups. Only the drug groups had significantly improved ($p < .005$). As in the

¹ Portions of this paper were presented at the Veterans Administration Research Conference on Cooperative Studies in Psychiatry, Cincinnati, June 6, 1960.

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³ Supplied as Tofranil through the courtesy of Geigy Pharmaceuticals.

⁴ Supplied as Niamid through the courtesy of Pfizer Laboratories.

first drug phase, the imipramine group also made significant gains in motility ($p < .025$). It should be noted that these significant changes were obtained only when measuring the change over the entire 16-week period and not when the pre- and post-measures for the second drug phase were compared.

MACC scale findings differentiated the N and I groups on some factors but did not reveal differences between the combined active drug groups and the combined placebo groups as were found in the global clinical evaluations.

The I group manifested increased motility at the end of each 6-week treatment period, *i.e.*, there was an increase in general motor activity including more frequent and more forceful verbal productions.

Affect scores for the four groups contrasted sharply with the motility scores during the first drug phase. The I group, which alone showed increased motility, was the only group which failed to gain in affect. Higher affect scores are associated with patients who are, in general, easier to get along with, *i.e.*, less irritable, bitter or sullen.

SUMMARY

Imipramine and nialamide were found to be comparable as measured by psychiatrist's clinical ratings of over-all improvement in patients with depressive symptoms. On measures of specific behavioral factors on

the MACC scale the two drug groups were differentiated by improved motility in patients on imipramine and by positive changes in affect in patients receiving nialamide during the first 6 weeks of drug administration.

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COMPARISON OF EST AND ANTIDEPRESSANT DRUGS IN AFFECTIVE DISORDERS

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Considerable interest has been displayed recently in the comparative value of EST and drugs in the treatment of depressive states. It has been intimated that antidepressant drugs are inferior to EST with respect to incidence of relapses and length of remissions. However, relevant, well-crystallized statistical data have been lacking. In an effort to answer this problem we have reviewed the records of all female patients with affective disorders who received

EST or antidepressant drugs, admitted to this hospital during the past decade. The following specific data were recorded for each case.

Age at episode of illness. The data were categorized into three significant periods: under 41, 41-60 and 61 or over.

Numerical order of episode. 1st, 2nd, intermediate (3rd to 5th) and late (6th or later).

Diagnosis. The standard nomenclature was followed.

Type of treatment. In the case of EST the

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number of treatments was recorded, specifically whether less than 6; in the case of drugs whether therapy was continued on a maintenance basis.

Multiplicity of attacks. Specifically whether multiple attacks had already appeared or whether the episode represented the only illness thus far.

Incidence of Relapse. Intervals between rehospitalization and/or retreatment on an extramural basis were classified as follows: 1. 0-6 months; 2. 6-12 months; 3. 12-18 months; 4. 18-24 months; and 5. 2 years or longer.

Inasmuch as antidepressant drugs have been used extensively for 2 to 3 years only, intervals beyond that period were not pertinent. Essentially, then, this study is a comparison of how well patients maintain

their status during a 2-year post-treatment phase. The antidepressant drugs used were Tofranil and Marplan.

Approximately 650 individual patients and over 1200 treatment episodes were included in the study. Of the latter, approximately 250 consisted of antidepressant drugs, which have been used practically exclusively here in the treatment of affective disorders in women during the past 2 or more years. It might be indicated that the great majority of patients who received antidepressant drugs have been followed at our outpatient clinic, thereby affording us detailed knowledge of their progress. To avoid unnecessarily detailed statistical presentation in this brief communication, the accumulated data have been summarized as follows.

TABLE 1
Comparison of Length of Remission Following EST and Drug Therapy

Diagnosis	Total No.	EST Duration of Remission				
		< 6 m.	6-12 m.	12-18 m.	18-24 m.	2+ y.
Psychoneurotic reactive depression	151	68	13	11	9	50
Psychotic depressive reaction	93	33	8	3	2	47
Involuntional psychotic reaction	169	56	16	6	4	87
Manic-depressive reaction	571	148	52	36	36	299

Diagnosis	Total No.	ANTIDEPRESSANT DRUG Duration of Remission							
		< 6 m. Com- plete	In- com- plete	6-12 m. In- com- plete	12-18 m. In- com- plete	18-24 m. In- com- plete	2+ y.		
Psychoneurotic reactive depression	80	18		2	16	0	16	2	15
Psychotic depressive reaction	33	7		3	9	0	9	0	3
Involuntional psychotic reaction	22	5		1	6	0	6	0	2
Manic-depressive reaction	105	27		4	24	5	16	4	16

Direct comparison of data in the two groups is somewhat difficult because the majority of intervals in the drug-treated group are still incomplete; consequently, the full duration of remissions cannot be determined as yet. In the EST group, intervals are either complete or the incomplete ones are beyond the 2-year limit. The most precise comparison can be made with respect to relapses within the first 6 months.

In the EST "neurotic" depressive group it is noted that 68 of 151 treatment episodes (45%) were followed within 6 months by relapse that required rehospitalization or retreatment. (This will be designated as "treatment relapse.") This represents the poorest results in the EST group and confirms the generally held opinion that EST is least satisfactory in the treatment of "neurotic" depression. In the drug-treated group, 18 of 80 episodes (23%) were followed by treatment relapse. It should be noted also that in 6 of these 18 instances (33%) the drug had been discontinued within the 6-month period, either through self-discontinuation or other factors.

In the group of psychotic depressive reaction, 33 of 93 EST-treated episodes (35%) were followed by treatment relapse as compared with 7 of 33 (21%) in the drug-treated group. Again, 2 of the 7 (29%) had discontinued the drug. In the involutional group treated by EST, 56 of 169 episodes (33%) ended in treatment relapses, as compared with 5 of 22 (23%) in the drug-treated group. One of the 5 patients (20%) had discontinued the drug. In the manic-depressive group, EST was followed by treatment relapse in 148 of 571 instances (26%) which was identical with the percentage for the drug-treated group, with 27 relapses in 105 episodes. Five of the 27 (19%) had discontinued the drug. The manic-depressive "mixed" sub-group was too small for statistical analysis; however, in general, the results were similar to those observed in the "depressed" sub-group.

It is pertinent to note that superior results with respect to relapses were obtained with both EST and drug therapy in the first attack of manic-depressive illness. Thus in

the EST group only 19% of first attacks were followed by treatment relapse, as compared with 32% for all recurrent attacks. There was no treatment relapse within 6 months in the 10 patients whose first attack was treated with antidepressant drugs.

In over-all comparison within the EST group, it is noted that treatment relapse occurred in 45% of "neurotic" depressions as compared with 28% for all "psychotic" depressions. In the drug-treated group, the corresponding figures were 23% and 24%, respectively. In general, EST in which the number of treatments was less than 6 (or unknown) was followed by a greater incidence of relapse. However, such treatment episodes were relatively few and did not significantly affect the over-all results.

It may be noted that the results with EST observed in this study are similar to those previously recorded,² when appropriate allowance is made for the fact that the earlier study used rehospitalization as the only measure of the relapse phase whereas the current study also included extramural administration of EST as a criterion.

SUMMARY AND CONCLUSIONS

Because of limited temporal factors, it is difficult at present to compare the incidence of "long-term" remissions (2 years or more) in patients treated by EST and those treated with antidepressant drugs. In "psychotic" depressions, treatment relapses, as defined, are certainly not more frequent in drug-treated patients than in the EST group. In "neurotic" depressions, results, with respect to relapses, are definitely more favorable following drug therapy. Premature discontinuation of the drug will lead to a greater incidence of relapses. As a corollary to this, patients treated with drug therapy require more continued follow-up care than those treated by EST. Contrary to our earlier hopes, it is evident that drugs will not affect the recurrent pattern of affective disorders—no more than EST has done. The pattern of repetition of attacks varies greatly from one patient to another.

² Oltman, J. E., and Friedman, S.: *Am. J. Psychiat.*, 107: 57, July, 1950.

ACETOPHENAZINE (TINDAL) AND THIOPROPAZATE (DARTAL) IN AMBULATORY PSYCHONEUROTIC PATIENTS¹

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Piperazine phenothiazines, prior to acetophenazine, were roughly similar in their action (1) and found to work best on introverted or schizoid neurotics or on incipient schizophrenics with primarily neurotic symptoms (2, 3). Reports on the use of phenothiazines generally in neurosis, if one takes a general overview of the literature, would seem to favor the aliphatic phenothiazines and thioridazine but unfortunately these drugs are prone to cause hematopoietic damage, and in the case of the latter a tendency to leukopenia as high as 10% has been reported (4). The writer has used phenothiazines other than piperazines with hesitation in private practice and only when other drugs failed, for the reason that laboratory followup is difficult for both psychiatrist and patient. Both chlorthalidone and chlorprothixine have been used by the writer, the former especially with remarkable results in many cases, but there is still a significant group of psychoneurotics who seem to need phenothiazines, although they often make temporary improvement on other drugs.

Acetophenazine has been used by the writer in psychoneurosis and the purpose of this study is to compare it with one of the older piperazines. Therefore 70 psychoneurotics given acetophenazine have been tabulated and compared with 70 given thiopropazate in previous years. All cases were on medication at least 3 months. Better results were obtained with acetophenazine primarily because there was a relative freedom from disturbing parkinsonism and secondarily because there seemed to be a wider spread of action with the drug and the less introverted patients did better on it. However it did work better on a larger proportion of introverted and preschizophrenic patients than with nonintroverted patients ;

but a significant proportion of the latter type did react to acetophenazine who did not react to other antianxiety agents. There is a larger proportion (two-thirds) of the former type in the study leaving only a sampling of the latter ; frank schizophrenics were excluded.

Drowsiness was the primary disturbing side effect from acetophenazine ; there would have been a smaller percentage had the writer used a smaller initial dose on his earlier patients ; it was usually controllable by reduction of dose. Parkinsonism, which occurred in a few cases, was controlled by reduction of dose or by the addition of an antiparkinsonian agent, or both.

SUMMARY

Acetophenazine is compared with thiopropazate in its action on psychoneurotics. It was a more effective drug primarily because more patients could tolerate it due to a low incidence of parkinsonism. Drowsi-

COMPARISON BETWEEN ACETOPHENAZINE AND THIOPROPAZATE

	Acetophenazine	Thiopropazate
Mean age	34	31
Diagnosis :		
Anxiety neurosis	80.0%	88.5%
Reactive depression	18.6	11.5
Obsessive-compulsive	1.4	0.0
Duration (in years)	1.9	1.5
Side effects :		
Drowsy	18.6%	5.7%
Parkinsonism	4.3	25.7
Akathisia	1.4	7.1
Depression	1.4	5.7
Polyuria	1.4	0.0
Neurocirculatory collapse	0.0	1.4
Dry mouth	1.4	0.0
Blurred vision	1.4	2.7
Improvement :		
Marked	47.1%	35.7%
Moderate	41.4	30.0
Slight or none	11.5	34.3
Average initial dose	30.2 mg.	16.7 mg.
Average maintenance dose	19.9 mg.	11.2 mg.

¹ The Tindal for this study was supplied by the Schering Corp. The writer wishes to thank the company and in particular W. Wesley Herndon, M.D. for their many courtesies.

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ness was its predominant side effect. Effective dose is roughly double that of thio-propazate.

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CASE REPORTS

SEVERE HYPERTENSION WITH PARNATE

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Parnate, like the other MAO inhibitors, has been known to cause postural hypotension in some cases. Indeed it is a major side effect to watch out for particularly in patients with a history of hypertension. This is a report of a case where sudden and severe hypertension appeared to have been paradoxically provoked by the administration of moderate doses of Parnate.

The patient is a 67-year-old male who was returned to the Norwich State Hospital for recurrence of depressive symptoms. On admission he was moderately depressed but otherwise asymptomatic. Routine physical examination did not reveal anything remarkable. Blood pressure was 166/92 sitting and 158/84 standing.

He has had three previous admissions within the past 10 years. In each instance, hospitalization was due to excessive drinking resulting in disturbed thinking and behavior accompanied by depressive symptoms. He has also been known to suffer from convulsive seizures ever since he suffered a fracture of the skull 11 years ago. While in the hospital 6 years ago, he had a posterior myocardial infarct from which he recovered uneventfully.

Upon admission, the patient was placed on Dilantin, gr. 1½, Phenobarbital, gr. ½, and Parnate, 10 mg., all given t.i.d. His blood pressure was checked routinely b.i.d. and, in the next 2 days, ranged between 160-170 over 80-90 sitting, and 150-174 over 80-84 standing. On the third hospital day, at about 8:30 p.m., he first complained of severe frontal-occipital headache. About 10 minutes later, he complained of lower chest discomfort and he suddenly developed dyspnea and cyanosis. He was immediately started on oxygen from a portable ward unit. His blood pressure, which was last recorded 3 hours before to be 170/80 sitting, was now 260/90. TPR was 97.2, 120, and 28. He was fully conscious, apprehensive, orthopneic, markedly cyanotic, and had cold,

clammy perspiration. The chest was full of coarse, bubbling rales; heart sounds were muffled, fast, but regular. He was given morphine sulfate, gr. ¼ to allay his apprehension. Meanwhile, in the next 15 minutes, while being transferred to the medical ward, he lapsed into coma. Respiration by this time had become extremely labored and gasping; rate dropped to 14/minute. He was rapidly digitalized intravenously with Digoxin, 0.5 mg. and oxygen was continued through the night. Blood pressure, which was constantly being checked, remained at very high systolic levels for about an hour after which it gradually receded thus: 1 hour from onset, 240/90; 2 hours later, 192/90; 3 hours later, 168/88; 6 hours later, 170/90. The patient regained consciousness about 8 hours after the onset. EKG taken the following morning showed left ventricular hypertrophy and digitalis effects. Eventual recovery was slow but uneventful.

DISCUSSION

In recapitulating what may have happened in this case, two predisposing factors stand out, namely: the initial presence of hypertension and the history of cardiovascular disease, particularly the heart attack suffered 6 years ago. For some unknown reason, Parnate in this case caused a sudden marked rise in the systolic blood pressure instead of the hypotensive effect that is more commonly observed. Most probably, hypertensive encephalopathy leading to coma then ensued and, at the same time, the pulmonary hypertension led to left heart failure and subsequently pulmonary edema.

This case serves to re-emphasize that extreme caution should be exercised when giving Parnate to patients with a history of hypertension, particularly those with cardiac complications. The sudden development of severe headache and any cardio-respiratory symptoms that may follow should be treated as a medical emergency.

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WITHDRAWAL SYMPTOMS FOLLOWING ETHCHLORVYNOL (PLACIDYL) DEPENDENCE

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Since its introduction in 1955, ethchlorvynol(1) (Placidyl-Abbott) has attained limited use as a hypnotic and tranquilizer. Published reports of toxicity and withdrawal difficulties are confined to one Canadian article(2) and one Scandinavian report of a reaction following acute overdosage(3).

Case Report: E.S., a 40-year-old right-handed white female began taking ethchlorvynol for increasing anxiety in 1958. On several occasions in early 1960, she had episodes of generalized weakness, mild staggering, nocturnal muscular aches and transient periods of confusion. In December 1960, she began to experience trance-like episodes resembling catatonia with blurred and double vision, increased staggering, headaches, dysarthria, motor incoordination, recent memory disturbance and psychomotor retardation. In early January 1961, she was seen by a neurosurgeon who noticed anisocoria, and advised further work-up but hospitalization was postponed until the patient retired in this area. She was seen here on 17 February 1961, and appeared to be a chronic neurotic. At that time the patient stated that she had been frequently taking Placidyl, 500 mg. at night and occasionally 100 mg. in the daytime. She was advised to stop her medication. Neither the patient nor her husband can recall accurately whether or not she continued the Placidyl in this week prior to admission. On 24 February, her condition had deteriorated somewhat and she complained of confusion, loss of concentration, feelings of unreality and difficult thinking. Hospitalization was advised because of the suspicion of a schizophrenic reaction.

Admission mental examination 3 days later, revealed a thin, slight woman whose speech was circumstantial and tangential. Her affect was, at times, inappropriate and she frequently missed the point of questions. There were no delusions or hallucinations and orientation was preserved. The neurological examination revealed the anisocoria noted above and a medical consultant found no other organic disease. Blood serology, hemogram, urinalysis, electrolytes, urea N., fasting blood sugar and liver function tests were within normal limits. On

28 February, a psychological testing revealed psychoneurosis with hypochondriasis and phobic features, hints of organicity and no evidence of schizophrenia. She became more confused, began to misidentify people, and was observed to have auditory and visual hallucinations. On 1 March, she had 3 grand mal seizures and an EEG revealed bursts of generalized slowing, most prominent in the right frontal area. She was placed on Dilantin, 100 mg. t.i.d. and there were no further seizures. She became more delirious but there was no progression of neurological signs. Skull films were normal and barbiturate and bromide levels were negative. On 3 March, a pneumoencephalogram was read as normal and her spinal fluid revealed clear fluid, normal dynamics, cells and protein. Her course during the next 3 days was stormy with agitation, delirium and vivid tactile and visual hallucinations. Repeated psychological testing revealed severe organic impairment. Massive doses of Thorazine aided her somewhat and suddenly, on 6 March, the hallucinations ceased and only mild confusion remained. An EEG on 8 March showed improvement and a repeat EEG on 16 March was read as normal. She was discharged on 22 March completely cleared and has had no recurrence of the previously mentioned symptoms after 3 months of careful follow up.

Prior to admission, both the patient and her husband denied excessive or increased dosage of Placidyl. As her memory cleared and the confusion lifted, she admitted that she had, on many occasions, taken over 1,500 mg. per day for months on end. The symptoms referred to previously paralleled increased dosage of Placidyl.

A case of Placidyl intoxication and withdrawal is presented which manifested itself with neurological symptoms and a stormy, schizophrenic-like syndrome. This report emphasizes the necessity for adequate supervision of patients utilizing sedative drugs, even those with allegedly negligible side effects.

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THE PRESIDENT'S PAGE

THE PSYCHIATRIST'S RESPONSIBILITY FOR MENTAL RETARDATION

Psychiatrists as a group are disinterested in mental retardation. Many have no more accurate knowledge about the retarded than the layman does. Training centers seldom provide serious field study. Residents in psychiatry are unwilling to train in the hospital school. Full time staff positions at residential centers for the retarded go unfilled. There are vacancies, as a consequence, for qualified administrators.

If questioned, most psychiatrists would agree that mental retardation is a subspecialty in their area of responsibility, and then disqualify themselves. Others are filling the vacuum of professed leadership. Is this a serious matter? Should we be concerned that psychiatry as a profession is unable to meet its responsibilities? Or after a long hard look should we admit our mistake, say this is not our field, and bow out? Are there other alternate actions that are appropriate and desirable?

Some of the issues will be faced in the forthcoming conference developed by the Committee on Mental Deficiency under George Tarjan and sponsored by the American Psychiatric Association. It will bring together the American Association for Mental Deficiency and representatives of national bodies in neurology and pediatrics and others.

How important is the psychiatrist in the diagnostic process? Heller's Disease, organic brain disorders, neurologic diseases, childhood schizophrenia and autism may be confused with mental retardation. Medical diagnosis is the physician's job. Perhaps the psychologist can contribute all the skills essential to determination of maturational delay, retardation in learning, distortion of emotion, existence of psychological conflict and emergent disorders from broken and troubled families.

The treatment of aggressive, hostile and destructive behavior that is the product of emotional illness has always been the psychiatrist's responsibility. The same symptoms exist as a cause for treatment or

hospitalization in the retarded. Shall we conclude that if the subject is retarded these symptoms may now be properly delegated for therapy by an educator or other professional?

Is program planning for the detection of mental deficiency, in family and school services, in counseling for courts and probation departments to be the responsibility of the psychiatric agency or some other?

Citizens' organizations interested in the betterment of the treatment of the mentally retarded have effectively utilized the appeal of the defective infant and helpless child. Legislators have listened to their lobby. Schools have been responsive. With growing strength the organizations press for solutions to problems. They are quite unwilling to stand by while psychiatry makes solemn pronouncements about mental retardation being the area of responsibility of psychiatrists but then admit it can provide no doctors to staff facilities or to give leadership.

I happen to believe that emotional disorders and family stress lead most frequently to the need for outpatient treatment or residential services for the mentally retarded. Qualified psychotherapists and competent physicians are essential to proper diagnosis and treatment. In addition effective education, social therapy and vocational training are parts of a rehabilitation program leading to social restoration.

Educational psychologists and teachers with experience in the program of education and training the retarded are emerging as leaders and administrators. Pediatricians have a natural interest because they are often the first to be consulted when a child functions poorly. The neurologist is interested in the aftermath of infectious diseases and in the organic brain disorder. The psychologist is concerned with learning, language, intelligence and vocational rehabilitation and has many points of contact in the field.

If it is agreed the psychiatrist also has an

important contribution to make, then ways must be found to arouse and sustain his interest. Perhaps it would help if all medical students while studying growth and development would receive at least one session on mental retardation. In the neurology clinic an effort might be made to include illustrative cases. The same could be effective in the pediatric clinic. Research in the field under the medical school auspices would help make study of the retarded

prestigious. In my opinion all psychiatric residents should have some training in mental retardation and every child psychiatrist should have a more intensive learning experience.

Premium pay for professionals is a realistic necessity to attract and hold the top flight people the field must have for growth and good performance.

WALTER E. BARTON, M.D.,
President

COMMENTS

THIRD WORLD CONGRESS OF PSYCHIATRY

The congregation of several thousand psychiatrists from 63 countries represents a formidable spectacle with diverse potentialities. The recent World Congress of Psychiatry held at Montreal, June 4-10, seems to have avoided most of the pitfalls inherent in such an undertaking and to have achieved a success that exceeded the most sanguine expectations of its sponsors, or so the unsolicited comments of many participants would seem to show. The work of scientific and administrative staffs combined with the diligent efforts of the lady volunteers yielded a meeting of great professional interest and social satisfaction.

The city provided an enviable environment with its bicultural flavour, and the concentration of the sessions on one floor of the city's largest hotel made for convenience and congeniality. The presence of outstanding international figures lent an undeniable lustre to the week's meetings. The choice of diverse themes for discussion seems to have struck a resonant note in the participants' interest, though the number of sessions running concurrently presented perhaps an excessive choice. Simultaneous translation into the 4 official languages took place in 3 large halls. This meant that all 12 plenary sessions accounting for some 43 papers and 16 panel discussions with 80 speakers were available to listeners despite language limitations. Though costly, this resolution of the barrier to communication should achieve a still greater use at future meetings.

The high quality of the papers presented was probably equalled in value by the opportunities of all to meet distinguished psychiatrists from other lands, to make new friends, and to learn of their problems. This represented a true dissolution of frontiers and humanity's troubles could be seen as knowing no national or geographic boundaries. All continents were represented and though psychiatric conditions vary somewhat with the milieu, they all concern the common denominator, man. The final emergence at the end of the Congress of a new

World Psychiatric Association, which was set up as a consequence of deliberations at this Congress, was a fitting climax to a meeting which aimed at the integration of efforts of psychiatrists of the nations represented.

The Congress, sponsored by the Canadian Psychiatric Association, Dr. Jean Saucier, President, and McGill University, Dr. D. E. Cameron, Chairman of the Organizing Committee, enjoyed the patronage of His Excellency Major-General Georges P. Vanier, D.S.O., M.C., C.D., Governor-General of Canada. Opening ceremonies took place Monday morning, June 5, following which the scientific sessions were inaugurated by Dr. Jean Piaget of Geneva who spoke, in his academic lecture, on child development. It seems fitting that this great psychologist, who has made such fundamental contributions to our understanding of the beginnings of mental life, should initiate the meeting whose considerations spanned all ages. Monday afternoon was devoted to 3 major plenary papers enunciating three leading themes to be considered again and again in the succeeding days from various points of view. First, Dr. H. C. Rümke of Holland discussed phenomenology in the sense of descriptive psychiatry and from his broad experience drew an outline which set the background of psychiatry's solid basis. This was followed by the kaleidoscopic enumeration of experimental approaches in former and current use by Dr. Jules Masserman of Chicago. Finally, theories in psychiatry were reviewed in scholarly fashion by Dr. Henri Ey of Paris.

Other major events of the Congress took place on Wednesday, June 7. In the early afternoon the academic lecture on internal inhibition was delivered by Dr. H. W. Magoun. This represented an account of brilliant explorations of the central nervous system by the highly skilled techniques of neurophysiology on which a firmer psychiatry may yet be built. Following this there were convocation ceremonies at McGill

University where honorary degrees were conferred on Dr. W. S. MacLay of England, Dr. Henri Ey of France, and Dr. C. B. Farrar of Canada. A similar ceremony was held shortly after this at the University of Montreal with Dr. Jean Delay of France, Dr. Ugo Cerletti of Italy, and Dr. C. Lagache of France being the recipients. The same evening saw 3,000 people assembled in the McGill University gymnasium to hear scientific creativity discussed by three Nobel laureates who were introduced by Dean D. L. Thompson with his particular mixture of incomparable wit and scholarship. As a first speaker, Dr. A. Szent-Gyorgyi quickly made his way into the hearts of the audience by getting down to the task of dealing with the rather torrid temperature by removing his coat and rolling up his sleeves. His vigour, enthusiasm, and honesty were transparent to all who followed his description of scientific work, and in particular his own, with absorbed interest. He emphasized that a scientist, like a creative artist, finds satisfaction in building something new. He pointed out that in scientific creativity, posing the problem was already half the work. Lord Adrian, by contrast, was a restrained, aesthetic figure who stressed the value of newly-developed techniques and instruments as contributing heavily to the advancement of science. He pointed out that research is based on what appear to be reasonable theories and he contrasted the difficulties in biological research to those in the physical sciences since in the former there was always interaction with the environment. This was particularly true in medical research. He warned against forcing young scientists into too rigid a mould and inculcating excessive respect for their scientific elders. The third speaker, Dr. Linus Pauling, apparently had a carefully prepared script which he shortly abandoned to make excursions into chemistry which demonstrated his vivid qualities as a teacher. He referred to his own exciting studies of the haemoglobin molecule in sickle-cell anaemia. He emphasized the working of the unconscious mind in the utilization of clues. He felt that each scientist working creatively did so in his own unique way. He also emphasized that excessive involvement in non-scientific activities such as his own ef-

forts related to world peace constituted a distraction interfering with research activity. These 3 different distinguished personalities managed to imbue the audience with some of their own feelings for scientific creativity so that all those who attended left invigorated and inspired.

Another event of academic significance took place at the banquet Thursday night with the awarding of honorary membership in the Canadian Psychiatric Association to three internationally recognized psychiatrists, namely Dr. William Sargant (England), Dr. Lopez-Ibor (Spain) and Dr. Robert Felix (U. S. A.).

After the opening day, and excepting Wednesday and Saturday, plenary sessions were held both morning and afternoon with 4 to 6 eminent speakers each. The titles of these sessions and the participants were:

Mental Hospitals: MacLay (England), Fossum (Norway), Napolitani (Switzerland), Kubie (U. S. A.);

Neurophysiology: Selye (Canada), Himwich (U. S. A.), Sawyer (U. S. A.), Reiss (U. S. A.), Penfield (Canada);

Child and Family Psychiatry: Leonhard (Germany), Scott (Canada), Seguin (Peru), Cameron (England);

Psychotherapy: Megrabian (U.S.S.R.), Hoff (Austria), Schultz/Luthe (Germany/Canada), Cameron (Canada), van der Waals (U. S. A.);

Physical Therapies: Kalinowsky (U. S. A.), Hirose (Japan), Freeman (U. S. A.), Caffey (U. S. A.), Jus (Poland);

Social Psychiatry: Macmillan (England), Funkenstein (U. S. A.), Redlich (U. S. A.), Bustamante (Cuba), Boss (Switzerland);

Concepts and Methods: Weinroth/Linn (U. S. A.), Stengel (England), Kallmann (U. S. A.), Mirsky (U. S. A.), Lagache (France);

Psychopathology: McGrath (Ireland), Grinker (U. S. A.), Lopez-Ibor (Spain), Lidz (U. S. A.), Snezhnevsky (U.S.S.R.).

A definitive account of the rest of the programme which filled the remaining 5 days could not be achieved by anything less than a monograph. An indication of the variety of topics and number of sessions might convey better than any other way the nature of the programme to which Con-

gress members were exposed, or subjected. There were 49 panel discussions, 16 of which were given in halls with simultaneous translation. Seven subsections were devoted to psychopharmacology in order to accommodate the great interest in this field. Three extra subsections for forensic psychiatric and autogenic training and one for experimental psychopathology were also necessary.

Panel discussions were as follows: Addiction; Alcoholism; Association for the Advancement of Psychotherapy; Atypical Endogenous Psychoses; Autogenic Training; Child Psychiatry; Community Mental Health; Corticovisceral Mechanisms; EEG Changes in Human Psychopharmacology; Eliminating Mental Hospitals; Existential Psychiatry; Experimental Psychopathology; Family Psychiatry; Forensic Psychiatry; Geriatrics; Group Psychotherapy; Juvenile Delinquency; Medical Psychology; Mental Retardation; Perceptual Isolation; Planning National Psychiatric Programmes; Pseudoneurotic Schizophrenia; Psychiatric Nursing; Psychiatric Occupational Therapy; Psychoanalysis; Psychoendocrinology; Psychopathological Art; Psychopharmacology; Psychosomatics; Psychotherapy of Psychoses; Religion and Psychiatry; Sleep and Dreams; Social Therapy and After Care; Spanish-speaking Psychiatry; Therapeutic Community; Training in Psychiatry; and Transcultural Studies.

It would be invidious to make a distinction between these panels on the basis of their quality, but from the standpoint of popular interest, it was apparent that those concerning the developing individual, the family, and the community attracted overflow audiences. As might be anticipated, the panel on psychopharmacology chaired by Dr. Jean Delay was extremely popular. The approach was novel and effective in that 6 subsections convened in the afternoon to discuss the individual contributions of the morning. As if this were not enough, it was necessary to set up 3 other sessions in the general programme to take care of still more papers representing only a fraction of those submitted on the topic of psychopharmacology. The subject of perceptual isolation, while exciting much interest and

being impressively presented, was said by one participant to have pretty well run its course for the time being, and would have to wait the passage of considerable time before it took a new lease on life. The panel under Dr. Robert Felix on planning national psychiatric programmes had an extremely important topical appeal and stimulated thinking in this area where many newly-developed countries have problems which, by many Western standards, are unsophisticated but difficult. By the same token, the panel on transcultural studies struck a responsive note as evidenced by the attendance and interest, a testimony to its chairman, Dr. Alexander Leighton and his associates. The panel under Dr. P. J. van der Leeuw of Holland on the place of psychoanalysis in training, teaching, and research described the various aspects of this important approach with much cogency. Kubie dealt with the testing of some of the assumptions of psychoanalysis with incisive clarity. Consideration of the contributions of psychology to psychiatry proved to be a most popular and stimulating panel under the leadership of Dr. Joseph Zubin. This covered a wide range of work from the development of conditioned emotional responses through brain mechanisms in behavior to ulcer formation, depression in post-traumatic amnesia and Piaget's consideration of the application of his findings on conceptual development to psychopathological situations. Finally, the session on sleep and dreams under the eminent leadership of Dr. Nathaniel Kleitman was particularly fascinating and indicated that a great deal may be expected to develop further in this rejuvenated field.

The general programme concerned 36 general headings and was divided into 64 sessions at which a total of 315 papers were given. Some of the most important communications given at the Congress were read in one or other of these sessions listed herewith.

General Programme: Aftercare; Alcohol & Drug Dependency; Biochemistry; Children; Communication; Community Mental Health; Concepts & Methods; Depression; EEG; Family Psychiatry; Forensic; General Hospitals; Genetics; Geriatrics; Group Psychotherapy; Hypnosis; Juvenile Delin-

quency; Neuropsychiatry; Organic Psychoses; Personality Development; Physical Therapies; Psychiatric Hospitals; Psychoanalysis; Psychoendocrinology; Psychopathology; Psychopharmacology; Psychophysiology; Psychosomatics; Psychotherapy; Schizophrenia; Social Psychiatry; Social Stress; Students; Suicide and Death; Teaching; and Transcultural.

The great variety of topics dealt with pointed up the many basic differences in approach. This was most evident in the Tuesday morning session on concepts and methods in which Weisman and Figlioli delivered papers on aspects of existential psychiatry to which Nelson contributed a vigorous critique. Bassin of the U.S.S.R. spoke of the incompatibility of Pavlovian psychiatry with psychoanalysis and was followed immediately by Bridger of the U. S. A. who emphasized the similarities between the two systems. One commentator has suggested that this would be a very fruitful area for future collaboration with the Russians if it were approached from the point of view of our attempts to make Pavlovian theory more meaningful for us rather than from the point of view of trying to sell Freudian theory to the Russians under the guise of there being no difference. Other papers such as this utilizing a psychoanalytic frame of reference were read in various sections according to their appropriateness to the theme, with one session devoted to papers of more specialized interest to analysts.

The place of the general hospitals in psychiatric care received vigorous discussion and an enthusiastic reception. Consideration of the place of teaching indicated that much thought and reappraisal is going on in this area. An important contribution by Margolin raised several critical issues regarding the inadequacy of present training for the job to be done and the possibility of turning out future graduates in medicine more specifically trained for the roles they have to fill. Concern for the student was further emphasized by 6 reports on studies of medical students which was summarized in superb fashion by the chairman, Dr. Martin Roth. Papers by Russian psychiatrists emphasized social and biological factors in determining and curing clinical syndromes.

Organization of community services, and concern with the psychoses, particularly schizophrenia, seemed to be their main areas of interest.

Many of the papers at the Congress concerned a topic of cardinal importance to psychiatry—namely, communication, though they were not necessarily subsumed under that heading. An important study on conditioned avoidance in monkeys was reported by Dr. I. A. Mirsky in which a closed television circuit was used to isolate the animals from each other so that only the facial expression of the one perceiving the conditioned stimulus could communicate concern to the other with the response bar. Designed with scientific rigour, this study breaks new ground in both the recognition and understanding of the communication of affect which people engage in daily, at conscious and unconscious levels. An experimental investigation of the importance of the heartbeat rhythm of the mother to the infant was reported by Dr. Lee Salk. He showed in his perceptively conceived and elegantly executed work that the exposure of newborn infants to a normal heartbeat sound at 72 paired beats per minute resulted in faster weight-gain and decreased crying. The tranquilizing effect of the normal heartbeat rhythm was also demonstrable in older children hastening the onset of sleep.

Various phases of biological development received critical attention. The importance of newer concepts in genetics was expounded by Dr. Franz Kallmann at a plenary session and interesting papers on disorders in identical twins by Drs. Kolb and Pilot were given. An original contribution was also made by Dr. M. Straker who described the psychiatric evaluation of 38 Caesarian-born adults who showed differences in reaction to stress in that they had many fewer somatic symptoms than two other groups with whom they were compared. He pointed to a re-emphasis on birth as a meaningful experience. Erudite biochemical studies were reported at 3 general programme sessions and deserve much fuller description and consideration than is possible here. A series of studies of great fundamental importance in the area of endocrinology were described by Dr. W. C. Young whose observations of the alteration

of sexual development and subsequent behavior in the female offspring of young rodents exposed to intra-uterine androgens have far-reaching implications. These presumably tie in with the type of refined study of electrical activity in the rhinencephalon in relation to hormonal activation being made by Dr. C. H. Sawyer and his group as reported at one of the plenary sessions. It would seem that neurological and endocrinological studies are meeting in this area which Dr. J. Frank named as the possible seat of empathic capacities.

A final activity of considerable interest was the film programme which went on practically continuously throughout the week. Some 26 films on various aspects of clinical and experimental psychiatry were shown, most of them more than once. They attracted greater interest than anticipated

by the number of seats provided.

CONCLUSION

In closing this attempt to review the Third World Congress of Psychiatry, it should be remarked that it has not been possible to achieve the impossible. No one could encompass this meeting in its entirety. Too much took place, too many papers ran concurrently for anyone to experience it all. Like the fable of the elephant and the blind men, it was felt in different ways. Only by implication could one infer that what one touched was part of a considerable colossus which, like the elephant, was packed with wisdom and like that beast would go trumpeting on over incredible obstacles but responsive to the will of its trainer.

Robert A. Cleghorn, M.D.

ACCOMMODATION

All our lives long we are engaged in the process of accommodating ourselves to our surroundings ; living is nothing else than this process of accommodation. When we fail a little we are stupid. When we flagrantly fail we are mad. A life will be successful or not, according as the power of accommodation is equal to or unequal to the strain of fusing and adjusting internal and external chances.

—SAMUEL BUTLER
(The Way of All Flesh)

IDEA AND REALITY

I know not anything more pleasant or more instructive, than to compare experience with expectation, or to register from time to time the difference between idea and reality. It is by this kind of observation that we grow daily less liable to disappointment.

—DR. JOHNSON

CORRESPONDENCE

ACTION FOR MENTAL HEALTH

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY:

SIR: The final report from the Joint Commission on Mental Illness and Health as the publication *Action for Mental Health* is a monumental, encyclopedic document prepared under the auspices of a dedicated, vitally concerned group of people—"a blue-ribbon team of experts."¹ As a source of authority and reference it may stand the test of time but much is already outdated or may never be accepted as sound advice. Its acceptance by 42 of the 45 members of the Commission is not conclusive of infallibility.

One recommendation is for everybody to get into the act by doing something about mental health; to develop counselors out of lay persons who might be interested after short courses of informal training or instruction. Sound professional and lay judgment should dictate caution in the acceptance of persons to serve in such capacity. Far too many pseudo-experts are basically abortive physicians who are more than willing to tamper with the health of other people and play God in the manipulation of their minds and emotions. In the absence of a definition of what constitutes positive mental health, the hazards from the use of such participants are considerable.

To receive the endorsement of the psychiatric profession, the report should guarantee the basic tenets of medical service: tend the sick but do nothing to harm them, and to cure if possible. The Commission recognizes the complexity of the problem by reference to "biological, psychological and sociological forces" acting on behavior complementing "a given potential for mental health or illness."² Comparison with the eradication of certain communicable and nutritional diseases is thus misleading. No possibility currently exists for mankind to

stay the tide of material "progress" (?) and come abreast of good societal mental health. Shortage of qualified personnel is not a justification for lay persons to join the "therapeutic team." Already too many leaders in various walks of life such as "chiropractic psychiatrists," "hypnotherapists," and "counselors" with little or no preparation plus the hypomanic or sociopathic individuals push to the fore as community "do-gooders." Several years ago California discovered "convenors": persons who attended a 2-day conference on mental health. Counselors and convenors are potential public menaces unless closely restrained by competent supervision. Even social organizations have acted misguidedly in a manner ill advised for want of ethical restraints, publicizing presumed knowledge in a manner familiar in merchandising products. The use of clichés and convenient statistics as alleged facts found in publications of apparent authenticity should be discouraged. Counselors are apt to venture where physicians fear to tread.

Another recommendation of the report is to convert large mental hospitals into rehabilitation centers for chronic diseases, including mental illness. Against this, Miss Loula Dunn, a member of the Commission, makes a cogent argument and quite rightly states, "nothing can be gained by perpetuating the concept of the independent chronic disease hospital." Mike Gorman,³ probably less familiar with the nature of the problem, supports the proposal. In view of the convincing showing that mentally ill patients have a repellant effect on the public, there is no reason to expect greater acceptance in the midst of physical semi-invalids and invalids. Social convictions do not alter materially with the loss of an appendage or the acquisition of a chronic physical ailment. The result may be the establishment of a new substandard class of human beings in a setting that does not promise better

¹ David J. Vail, Mental Health Newsletter, State of Minnesota, May 1961.

² Un-numbered quotations taken from *Action for Mental Health*.

³ Speech of April 27, 1961, Sacramento, Calif.

services than the old mental hospitals. The direction of such institutions by lay administrators reopens the issue on the merits of lay administrators *vs.* medical directors in providing medical facilities for a captive clientele.

Despite the promise of "rashness" in bringing a new day to the treatment of the mentally ill, the recommendation for 1000-bed mental hospitals is ultraconservative. It denies meaning to a recognized need for medical superintendents in the operation of public mental hospitals. The 1000-bed hospital, with an expected annual admission rate of approximately 500, is beyond the capacity of any physician to know and serve the needs of the individual patients. When Dr. Harry Solomon in 1958 spoke of the obsolescence and antitherapeutic characteristics of mammoth state hospitals, he suggested that these institutions be dismembered into smaller, independent, complete psychiatric units. The proposal was received with mixed feelings by commissioners and superintendents responsible for the operation and continuance of such institutions. Apparently, they could not envision the possibilities of such reorganizations with certain areas of common use like acute surgical and medical needs, food service, general maintenance, *etc.*, remaining more or less unchanged to serve the entire compound. His aim was to end construction of hospitals of excessive capacity.

Since this memorable declaration, GAP (Report No. 46) quoted with approval the recommendation of Dr. Thomas Kirkbride, who wrote about 80 years ago that mental hospitals should be limited to 250 beds "with 500 as the undesirable top limit." The Surgeon General's Report, *Planning for Mental Health Facilities* issued December, 1960 recommends 600 beds as the maximum capacity. Along comes Dr. Francis J. O'Neill,⁴ during the 1961 annual meeting of the APA, to belabor the issue by arguing the merits of large institutions *vs.* smaller ones; he doubts "patients receive any better treatment or have any better chance of recovery in a small hospital because of its size alone"; then he goes on to say "that there are advantages in the small hospital."

This is quite a concession! He also injects the economic factor which has been pretty well exploded.

From personal experience with a hospital that expanded in the past 16 years from an average census of 336 to about 580, I know it need not be more expensive to operate a small hospital above a minimum of 250 to 300 beds. Operating costs *per diem per capita* for the Nevada State Hospital during the past decade have been only slightly in excess of the national average. Expansion has reduced the superintendent's participation in clinical and personalized services to patients and concerned relatives.

Too much lip-service has been given to clichés like "milieu therapy," "homelike atmosphere," "personalized attention," *etc.*, to now approve 1000-bed hospitals. Such offerings are simply not realistic for large institutions where administration depends upon mass decision rather than consideration of individual patients. The recommendation is a disappointment to those who recognize the merits inherent in well directed small hospitals. Furthermore, in many areas of the country, large institutions would preclude their location in proximity to the communities served. The report may justify the continuing expansion of the hospital in Nevada, clearly against the interests of half of the state's population living at a distance of 450 miles from it.

The proposals for state programming are vague and misleading. Clinics for the mentally ill are referred to as "the fulcrum of effort to remove the barriers isolating mental hospitals from the community." In one instance they are not only to render clinical services but take leadership in providing community mental health education. Elsewhere advice is given to have mental health education "left for the health departments and mental health associations." In another instance the report invites hospitals to make closer contact with communities by actively participating in local programs. There appears to be a confused overlapping in assignment of the various phases of a total program. A clearly delineated plan of organization for state programs is still needed.

On the subject of research the implications are that it be encouraged and supported in every nook and cranny "out of a

⁴ Mental Hygiene News, NYS Dept. Mental Hygiene, May 1961.

wish to do something." This is not sufficient justification for a generous use of public funds. Support of research centers requires little argument but the report's proposals seem to ask for search parties "to find a needle in a haystack." Americans may be "alarm-minded" and "action-oriented" but this is poor reason for loose spending of public funds, especially while "scientists face (the) task with an incredibly small fund of knowledge," and mental health programs depend upon "an article of *scientific faith* rather than an applicable *scientific truth*."

The attitude towards physical therapies seems deprecatory. No direct acknowledgment is given the role played by pharmacology and shock treatment in reversing the tide in the number of hospitalized patients. One of the anomalies of our professional thinking has been to overstress the influence of psychotherapy that is given before, during, and after the physical therapies. This does not deny the merits of psychotherapy as of adjunctive value. Persons emerging

from mental illness are not necessarily naked babes in the woods requiring the wisdom and guiding hand of a so-called mental health specialist for reorientation to community living. The learning experience of hospitalization should include some preparation for the ordeal. No convincing evidence yet exists that "half-way houses" (often third rate boarding houses) and "clubs" for expatients are necessarily helpful on the road back into society.

The implied and expressed medical viewpoints in the report seem biased in favor of popular rather than practical judgments. The Commission recognized its opportunity for "a chance of a lifetime" but lost it by not distinguishing between "faith" and "truth." A more fruitful document might have resulted from fewer debatable recommendations, fewer personal preferences, and more carefully considered objectives.

Sidney J. Tillim, M.D.,
Superintendent,
Nevada State Hospital,
Reno, Nev.

PSYCHOANALYTIC METHODOLOGY: A REPLY TO DR. LEHRMAN

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY:

SIR: I doubt that the readers of this Journal need to have their attention directed to the fact that the "fundamental error" referred to by Dr. Nathaniel S. Lehrman in his correspondence on page 1045, May 1961, resides *not* in psychoanalytic methodology, but in his misunderstanding of the methodology and its theoretical foundation. Nevertheless, it would be remiss if these pages did not contain a correction of these misconceptions, even if it is only for the record.

Dr. Lehrman writes "Say what comes to mind" is the admonition to the patient. The initial response which then spontaneously occurs is a fundamental part of the 'material' upon which the treatment is based. In practice, this initial response tends to be taken as the truest and most accurate expression of the patient's most profound feelings, of his 'Unconscious.' Lest there be

any doubt about Dr. Lehrman's intentions, he later reiterates this by stating that "psychoanalysis . . . seems at times to accept this response as valid, accurate and undistorted."

The reason I feel my reply is primarily for the record, is that amongst the basic cornerstones of psychoanalytic theory is the widely known premise that dreams have a *latent* as well as a manifest content. Similarly, who amongst us is not aware that underlying the "initial response" to a parapraxis in the form of claiming forgetfulness, are probably unconscious wishes. Certainly such fundamental psychoanalytic concepts do not sound like "the incorrect acceptance of the initial response as essentially valid."

Psychoanalytic technique recommends that we listen to our patients with an evenly hovering attention. In contrast to intent concentration, this enables us to observe more than the verbalized "initial response." The implications, allusions, gaps, thematic

sequences, tone of voice, posture, and a host of other nonverbal communications along with the analyst's own associations deserve our attention if we hope to begin to apprehend the unconscious.

While reading the first part of Dr. Lehrman's letter I wondered if he was not confusing Breuer and Freud's original cathartic method or Jung's diagnostic word association test with psychoanalytic methodology. This hope was shattered when I read of his wondering if this alleged error is not partly responsible for both the unfortunate disruption in the families of some analysands and the discouraging pessimism so pervasive today about the possibility of harmonious human relations. He does not explicitly rule out the possibility of other explanations for these phenomena. It might be well at this time to note one of many other possible explanations for each.

The aim of psychoanalytic therapy is alteration in the structure of the patient's personality so that he might achieve what

his endowment would have permitted had he not been thwarted by his emotional illness. It is not difficult to conceive of success in such a therapeutic venture resulting in disruption of family stability provided that stability was dependent in part on the patient's neurosis. The limited scope of this communication prevents further discussion of this vital point.

Is it not possible that the pessimism regarding interpersonal relations that Dr. Lehrman refers to is a result of an historical comparison of society's startling technological advances with the relative lack of progress in human relations over the past thousands of years? Admittedly psychoanalytic methodology resembles the methodology of the historian, but elaboration of this also would be beyond the scope of a reply to Dr. Lehrman.

Saul I. Harrison, M.D.,

University of Michigan Medical Center,
Ann Arbor, Mich.

REPLY TO THE FOREGOING

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : The syntheses required for scientific progress can be achieved only by the "controversial" confrontation of differing ideas. Although Dr. Harrison's specific criticisms seem to bear only tangential relevance to the point of my letter, he does however, raise certain issues warranting further examination.

My letter sought to point out that the tendency in psychoanalysis to accept the initial feeling response to or about other people as quantitatively accurate was erroneous because it failed to reckon with the exaggeration of the painful and the hostile inherent in any initial response. The overestimation of interpersonal hostility resulting from this error seems at least partly to underlie the psychoanalytic belief that man and society, son and father, can never get along amicably without basic sacrifice on the part of one or the other. This rather cheerless attitude toward social and intra-familial differences seems to foster the social hopelessness and family disruption also mentioned in my letter.

While Dr. Harrison is correct in pointing out that psychoanalysts do not *always* take the initial response as quantitatively valid, my letter merely indicated that they do so with sufficient frequency to have evoked the pessimistic social attitudes that have been mentioned, and to view these attitudes as thereby proven.

His sixth paragraph criticism seems to overlook the principle of multiple determination so important both in psychoanalysis and in thinking in general. The fact that social causes contribute to contemporary hopelessness in no way denies that psychoanalytic methodology may do so too. Denying the role of psychoanalysis in helping to shape contemporary American social attitudes seems neither accurate nor responsible, particularly when we note the widespread acceptance of the dehumanized, unconsciously cynical psychoanalytic view that noble human motivations are "really" sexual or aggressive in basic origin; this philosophy tends to denigrate ideals and to see a Moses and a Jesus, a Luther and a Lincoln, a Shakespeare and an Einstein as "basically" sublimated beasts.

His seventh paragraph seems almost inadvertently to confirm my letter by demonstrating how psychoanalysis can sometimes affect families in a disruptive way. It implies rather clearly that the analyst sees his sole responsibility, rather than his prime one, as toward his patient alone. In so seeing his task, the analyst tends to subordinate or exclude the patient's spouse in his consideration of the problem, thus setting the therapeutic relationship up in such a way that it becomes significantly easier to scapegoat the absent marital partner. On the basis of information about the marital relationship obtained primarily or exclusively through one pair of biased eyes, the analyst then decides, as Dr. Harrison points out, when a marriage is too neurotically-based to warrant continuation. I am sure that Dr. Harrison has had the same experience as I in discovering how unreliable *any* interpersonal conclusions based on one biased firsthand observer can sometimes be; Freud himself discovered this fact when he found his patients' infantile memories were false.

Dr. Harrison's last paragraph suggests still another important psychoanalytic error: the mistaken tendency some analysts still have to see themselves as merely observers of patients rather than as active participants in a treatment process. But such a denial of participation does not seem completely consonant with the historic responsibility of the physician. The presence of such attitudes within the medical profession alone is unfortunate enough. When, however, they become important in mass communication industries—along highly an-

alyzed Madison Avenue, for example, the clarity of thinking and sense of personal responsibility our country and our world need so desperately today are hardly strengthened.

The exaggeration of interpersonal hostility implicit in psychoanalytic methodology¹ would then seem to have led to several unfortunate consequences, some of which Dr. Harrison's letter seems to suggest or even confirm. One of the most important appears to be its denial that the relationship between subordinate and authority—son and father, man and society—can ever be truly mutual. This anarchistic, hopeless attitude toward the very existence of social structure stands in sharp contrast with the optimistic biblical attitude that authority can be loved and respected, with the responsible democratic belief that social authority can be made better, and with the courageous scientific concept that human search can solve human problems. Since a major reason for the popular acceptance of the anarchism in this philosophy has been the medical and scientific prestige it carries, it would seem to behoove us, as doctors and as scientists, to begin to understand it and correct it, starting within our own field. Even if our only motivation were our recognition of the therapeutic danger of hopelessness, this would still seem to be our responsibility as physicians, because of the vital role hope plays in healing.

Nathaniel S. Lehrman, M.D.,
Great Neck, N. Y.

¹ This point is discussed in some detail in: *Diseases of the Nervous System*, 22 : 201, April 1961.

The end of society is peace and mutual protection, so that the individual may reach the fullest and highest life attainable by man. The rules of conduct by which this end is to be attained are discoverable—like the other so-called laws of nature—by observation and experiment, and only in that way.

—THOMAS HUXLEY

NEWS AND NOTES

FIRST PERUVIAN CONGRESS ON NEUROPSYCHIATRY.—The published proceedings (508 pages) bears date March, 1960 and has just been received (July, 1961).

The Congress was organized by the Neuropsychiatric and Medico-Legal Society of Peru in commemoration of the 20th anniversary of the foundation of the Society.

The Congress was held in Nov. 1958 at Lima. The fields, both of psychiatry and neurology, were widely covered and besides the Peruvian contributors there were participants from Argentina, Chile, Bolivia, Uruguay, Ecuador and Brazil.

One especially interesting contribution by Dr. J. O. Trelles reviewed the neurological teaching of Jean-Martin Charcot, John Hughlings Jackson, Constantin von Monakow and Kurt Goldstein. The report includes portraits of these 4 masters.

PERCIVAL BAILEY LECTURE.—Dr. Benjamin Pasamanick, Professor of Psychiatry at the Ohio State University and Director of Research at the Columbus Psychiatric Institute and Hospital has been named the Percival Bailey Lecturer for 1961. He will speak on "Some Misconceptions Concerning Racial Differences in the Prevalence of Mental Disease" at the Illinois State Psychiatric Institute in November of 1961.

THE SOCIETY FOR THE SCIENTIFIC STUDY OF SEX.—The fourth annual meeting of the Society will be held at 9:30 a.m., Nov. 4, 1961, in the Barbizon Plaza Hotel, 106 Central Park South, New York City.

The topic for the morning session: "Sex and Aging." Discussants: Dr. Harry Benjamin, Dr. Lissy F. Jarvik, Dr. Joseph T. Freeman, Mrs. Donald Armstrong. Chairman: Dr. Hugo G. Beigel.

The topic for the afternoon session: "Sex factors in Schizophrenia." Discussants: Dr. Bernard C. Glueck, Jr., Dr. Jules D. Holzborg, Dr. Lothar B. Kalinowsky, Dr. Sandor Rado. Chairman: Dr. Franz J. Kallman.

AMERICAN PSYCHOSOMATIC SOCIETY.—The 19th annual meeting of the Society will be held at the Sheraton Hotel in Rochester, New York, on Friday, Saturday, and Sunday, Mar. 30, 31 and Apr. 1, 1962.

The Program Committee will welcome abstracts of original work to be presented at the meeting either by members or non-members of the society. Abstracts should be not more than 2 typewritten pages, and should be submitted in 11 copies. Deadline for submission is Dec. 1, 1961.

Abstracts should be addressed to Stewart Wolf, M.D., Chairman, Program Committee, 265 Nassau Rd., Roosevelt, N. Y.

TRAINING IN CHILD PSYCHIATRY.—The Department of Psychiatry at the University of Washington School of Medicine in Seattle, Washington, announces the establishment of a two-year residency in child psychiatry. The comprehensive training program includes not only experience on inpatient and outpatient child psychiatry units, but also supervised liaison with schools for normal and emotionally disturbed children, a resident home for unwed mothers, a resident home for delinquent boys, and other community services and agencies. There are opportunities for research and teaching. The stipends are ample. The program is under the direction of Dr. Raymond Sobel, Associate Professor, Psychiatry.

NORTH PACIFIC SOCIETY OF NEUROLOGY AND PSYCHIATRY.—The annual meeting of the Society was held in Harrison Hot Springs, B. C., on April 7 and 8, 1961. The following officers will serve for the year 1961-1962: President: Robert S. Dow, M.D., Portland, Oregon; President-elect: Robert M. Rankin, M.D., Seattle, Washington; Secretary-Treasurer: Thomas H. Holmes, M.D., Seattle, Washington; Past-President: Peter O. Lehmann, M.D., Vancouver, British Columbia; Executive Committee: Edward K. Kloos, M.D., Portland, Wallace Lindahl, M.D., Seattle, and R. L. Whitman, M. D., Vancouver.

BROOKLYN PSYCHIATRIC SOCIETY.—Meetings are scheduled for the following dates : Oct. 19, 1961—"Presidential Remarks" by Edward F. Falsey, M.D., and "Recent Progress in Psychiatric Research" by William Malamud, M.D. ; Nov. 16, 1961—"The Office Treatment of Schizophrenia," Gustav Bychowski, M.D., Moderator ; Feb. 15, 1962—"Rehabilitation Facilities for the Emotionally Ill" by Joseph Palevsky ; and Mar. 15, 1962—"Basic Concepts in Psychosomatic Medicine, with Special Regard to Therapy," Ralph Moses Kaufman, M.D., Moderator. Scientific sessions are held at 8:30 p.m. in the auditorium of Brooklyn State Hospital, 681 Clarkson Ave., Brooklyn 3, N. Y. and are open to the profession.

FIRST INTER-AMERICAN CONFERENCE ON CONGENITAL DEFECTS.—This Conference will be held at the Statler Hotel, Los Angeles, Calif., Jan. 22-24, 1962, under the sponsorship of the National Foundation and the University of Southern California. General Chairman : Dr. Norman H. Topping, President, University of Southern California.

Program Topics : 1. Genetic Defects : Hemoglobin, Galactosemia, Gargoylism, Amino acid defects. 2. Structural Defects : Chromosome abnormalities, Mongolism, Central nervous system defects, Genito-urinary defects, Eye defects. 3. Clinical Manifestations of Genetic and Structural Defects.

Sessions to be held at Los Angeles County Hospital and to include patient demonstration of Sick cell anemia, Cooley's anemia, Monocytic leukemia, Galactosemia, Phenylketonuria, Gargoylism, Porphyrinuria, Cystinuria, Franconi's syndrome Cystic fibrosis, Genito-urinary defects, Eye anomalies, Chromosomal aberrations, Mongolism, Hydrocephalus, Spina bifida.

For further information : Stanley E. Henwood, Executive Secretary, International Medical Congress, Ltd., 120 Broadway—Rm. 3013, New York 5, N. Y., COrtlandt 7-2400.

NORTH SHORE HOSPITAL SEMINARS 1961-62.—The opening lecture in the Seminars of 1961-62 on "Mental Hygiene" will be

held at the hospital at Winnetka, Ill., on Oct. 11, 1961 at 8:00 p.m.

Mr. David McK. Rioch, Walter Reed Army Institute of Research, Washington, D. C., will speak on "The Challenge of Survival in the Atomic Age."

AMERICAN OCCUPATIONAL THERAPY ASSOCIATION.—The annual conference of the Association will be held at the Sheraton-Cadillac Hotel, Detroit, Mich., Nov. 6-8, 1961.

NATIONAL ASSOCIATION FOR MENTAL HEALTH.—This Association together with the National Institute of Mental Health have recently published the twelfth edition of the Directory of Outpatient Psychiatric Clinics, compiled by the Biometrics Branch of the Institute. It contains the latest available statistics, as of April, 1959, giving a detailed listing of outpatient psychiatric clinics and information on mental health resources in the United States.

Listings include : outpatient psychiatric clinics and their locations, sponsors, geographic areas, age limitations of those acceptable for service, clinic schedules, data about professional staff, state mental hospitals, institutions for mental defectives and epileptics, psychopathic hospitals, veterans administration hospitals, state mental health association, state mental health departments and regional offices of the U. S. Department of Health, Education and Welfare.

PRIVATE SUPPORT FOR MENTAL HEALTH.—A brochure thus titled has been compiled by Jeanne L. Brand, Ph.D., of the National Institute of Mental Health. "Dr. Brand's survey," the preface states, "attempts to analyze the framework within which foundations and other private philanthropic agencies are presently supporting mental health activities." The NIMH, commencing in the fall of 1958, questioned 1,182 foundations and other national granting agencies which might be expected to offer support for some mental health research, training, or service ; the results of the survey refer only to support available on a nationwide basis. This brochure is available from the Super-

intendent of Documents, U. S. Government Printing Office, Washington 25, D. C. (price—35 cents).

EXCERPTA CRIMINOLOGICA.—This new publication, first issue—January/February 1961, provides an exhaustive and up-to-date abstracting service in the field of criminology. It is prepared and published by the Excerpta Criminologica Foundation in cooperation with the National Council on Crime and Delinquency. Articles chosen for abstracting cover the widest possible range. The Board of Chief Editors are Prof. Dr. Th. Würtenberger, Freiburg/Br., Prof. T. C. N. Gibbens, London and Prof. W. H. Nagel, Leyden. Prof. Nagel has been appointed executive editor in cooperation with H. J. Klare, Strasbourg, C. M. Langemeijer-van Schreven, The Hague, and G. Rose, Manchester. The Editorial Board has been drawn from a very wide international field. The editorial and administrative offices are at Herengracht 119-123, Amsterdam, The Netherlands.

Excerpta Criminologica is published bi-monthly; one year's subscription is \$30.00. New York Office: New York Academy of Medicine, 2 East 103 St., New York 29, N. Y.

UNIVERSITY OF MELBOURNE CHAIR OF PSYCHIATRY.—Applications are invited for the above Chair.

The salary will be £5,200 per annum, and superannuation similar to F.S.S.U. in Great Britain will be provided.

Further information and conditions of appointment can be obtained from the Registrar, University of Melbourne, Parkville,

N.2., Victoria, Australia, and applications should reach him by November 1, 1961.

OFFICE OF THE SURGEON GENERAL, U. S. ARMY.—*Colonels Weaver and Glass exchange jobs.* Col. Oswald M. Weaver, MC, has been appointed Chief of the Psychiatry and Neurology Consultant Branch in the Army Surgeon General's office. He succeeds Col. Albert J. Glass, MC, who is now Consultant in Neuropsychiatry to the Chief Surgeon, U. S. Army Europe, the position Col. Weaver held before coming here.

Colonel Weaver received his M.D. degree from the University of Virginia in 1936. Entering on military duty in February 1941, his assignments include Commander of the 81st Hospital Train and Executive Officer of the 74th General Hospital in the European Theater during World War II; Assistant Chief of the Neuropsychiatric Service at the 361st Station Hospital in the Far East Command in 1950-51; Chief of the Department of Neuropsychiatry at Fitzsimons General Hospital, Denver, Colo., 1951-55; Chief of the Psychiatry Service and Department of Neuropsychiatry at Letterman General Hospital, San Francisco, 1955-57; and Consultant in Neuropsychiatry to the Chief Surgeon, U. S. Army Europe since 1957.

The Colonel is a Diplomate in psychiatry of the American Board of Psychiatry and Neurology, a Fellow of the American Psychiatric Association, and a holder of the "A" military specialty rating. The rating is a special honor reserved for those officers who are outstandingly qualified, and have demonstrated exceptional professional ability in their particular specialty.

CIVILIZATION

Two things are clear: there must be a very different civilization or there will be no civilization at all; and the other is that neither the old religion combined with the old learning, nor both with the new science, suffice to save a nation bent on self-destruction.

—OSLER

BOOK REVIEWS

DIE SPAETSCHIZOPHRENIE. By Wolfgang Klag-es. Biographie und Klinik schizophrener Ersterkrankungen des mittleren Lebensalters. (Stuttgart, Germany: Ferdinand Enke Verlag, 1961, VII, 162 pp. DM 25.)

The author follows Manfred Bleuler's notion of late schizophrenia which concerns clinical pictures first observed after the 40th year of life. His non-selected material consists of "fully schizophrenic pictures" which had occurred between the ages 40 and 60. His 53 cases, 38 women and 15 men, were admitted to E. Kretschmer's clinic in Tuebingen between 1953 and 1958. The cases are well reported. The personality and its development are gone into intensively. The main group of 40 late schizophrenics is flanked by a schizothymic border group of 10 and a cyclothymic border group of 3 cases. Practically all the patients belonging to the main group were capable and competent in their professional or vocational work with little private life; tough energy was paired with sensitivity. Activity, craving for success with unmistakable coldness were no less conspicuous than high grade vulnerability. These persons did not have any hobbies.

At the first signs of aging the normal individual looks back critically and tries to catch up in respect to interiorization and maturity. In this respect the author's patients failed, getting into all manner of crises and conflicts.

Their symptomatology is essentially not different from the symptomatology of other schizophrenics. However, the contents of the delusions were found to be closer to the ego. There was a wealth of bodily sensations, or rather mis-sensations.

The course in most instances was acute and relatively favorable in those cases of the main group that had cyclothymic elements. These cases and those of the cyclothymic-pyknio border group came often to full remission.

This is a nice piece of work in which a number of already known observations receive considerable support. The author stresses that there are pre-formed tracks due to the age of the patient along which the development passes. He shares with many of us the notion that "the psychosis can use for its build-up only possibilities which are already there." It would be discourteous and uncautious to argue about some of the author's diagnoses.

There is much said about the structure of the psychosis, but the name of Karl Birnbaum

who wrote a classical book (1923) about this topic is never mentioned. It is also regrettable that the author has not one word to say about the studies of Henri Ey.

EUGEN KAHN, M.D.,
Houston, Tex.

HANDBUCH DER NEUROSENLEHRE UND PSYCHOTHERAPIE. Edited by Viktor E. Frankl, M.D., Victor E. Freiherr von Gebsattel, M.D., and J. H. Schultz, M.D. (Munich and Berlin: Urban & Schwarzenberg, parts 8-20, 1958, '59, '60. Respectively: DM 20, 13.50, 19, 20, 28.50, 20, 19.50, 23.50, 18.75, 17, 13.50, 17.)

The first 7 parts of the *Handbuch* have been reviewed here previously. In Part 8 Bally aims to show how Freud's "idea" of psychoanalysis was originally derived from hypnosis, and around it he developed his theoretical system. Bally does not take sides as to the pros and cons of psychoanalysis. A. Uchtenhagen contributes a chapter on *Zwangsneurosen* (compulsive disorders), in which he attempts to differentiate between the neuroses and the psychoses.

Series 9 deals with some of the analytical schools. Emil Gutheil, the late editor of the *Am. J. Psychotherapy*, discusses Stekel and his deviation from Freud's concepts, and his use of pedagogic methods and suggestibility. Schidder writes about the "Neo-Psychoanalysis" of Schultz-Hencke; his contribution is more outstanding than that of Schultz-Hencke. Alexandra Adler reports on her father's Individual Psychology, indicating the range of the schools of thought which were influenced by Alfred Adler. Her article is particularly helpful. Finally, Heyer summarizes C. G. Jung's psychology and states his opinion that Jung's *Lehre* has not reached the final stage yet, but that his psychology "stimulates development." It is doubtful whether Heyer's view will be accepted by the students of Jung; indeed, the question arises why was not a student of Jung asked to write about analytical psychology.

One of the editors of the *Handbuch*, Victor von Gebsattel, starts off Series 10 with a contribution on "Psychocatharsis." Unfortunately, the subject is dealt with too summarily, without notice of other important contributions on this subject (Grinker (U. S. A.), Spiegel, Shorvon, et al.). A. Friedemann writes about Szondi's *Schicksalsanalyse*, which has found

few students in this country. Ernst Speer's *Kontaktpsychologie* is dealt with by Kihn, emphasizing the important role of the therapist-patient relationship. Speer does not recognize the oedipal conflicts. The last contribution in this Series comes from the pen of Ernst Speer himself: "*Das Erlebnis als klinische Aufgabe in der aerztlichen Psychotherapie.*" The author seems to quote exclusively from the *Lindauer Psychotherapiewoche*, conducted by him; there is no mention of the many researches conducted in Anglo-Saxon countries.

Series 11 is devoted to "Mental Hygiene." Contributions by such early pioneers in this field, as Heinrich Meng, Federn (ego psychology), von Gagem (mental hygiene in love and sex), Helmut Paul (mental hygiene in work, recreation and leisure-time) are offered, and it seems significant that substantial knowledge has been gained by these authors from their familiarity with American literature. Many of these contributions are directed to German general practitioners, who are probably less familiar with mental hygiene principles than are their American colleagues. A particularly scholarly contribution was written by E. Wiesenhuetter. Bovet reports on marriage counseling as practised in Protestant churches in Switzerland, and indicates that such "counseling" saves the country money and mental hygiene clinics from an overload of patients. Of great interest seems to be the paper of the Nestor of Vienna's psychiatrists, Erwin Stransky, who discusses geriatrics in mental hygiene, although he omits the problem of old-age homes and "Golden Age Clubs," which have sprung up, especially in this country in recent years.

Series 12 begins with L. E. Wexberg's (U. S. A.) paper on social workers. Social work as a team-member of the psychiatry-clinical psychology-social work triangle is still largely unknown on the Continent. Therefore, the author concentrates on the United States, where psychiatric social work found its real field, even though England lays claim to this specialty's origin. Wexberg also discusses the rehabilitation of alcoholics, many aspects of rehabilitative methods being the same as in this country. E. Wiesenhuetter discusses the rehabilitation aspects of all handicaps, surveying trends throughout the world and presenting an outstanding and quite comprehensive bibliography, including authors behind the Iron Curtain! Two contributions deal with the last war: Paul writing (probably from his own experience) on "War Captivity" (the medical, psychological and sociological problems), treating such fascinating involvements as the "Dy-

namics of Escape" and "Brainwashing"; and Frankl reporting about his own psychohygienic experiences in concentration camps, in which he shows how relatively "ineffective" was psychotherapy when applied to inmates of concentration camps. Finally, Paul and Frankl together write on "Psychohygiene in Catastrophes," a chapter in which the authors attempt to answer questions which are timely now to every nation, and attach great significance to the experiences of American psychiatrists during World War II.

Series 13 contains articles on child psychiatry and on psychosomatic medicine. Wiesenhuetter speaks on "problematic phases" during childhood, in which there appears neuroses "typical and specific for children." Fixations and impressions have the utmost significance for children and adolescents; from childhood neuroses may result delinquency as well as stuttering and tics. Kehrer discusses psychosomatic problems of the later years, such as the illness of the executive and the psychoneuroses of the "mature" individual. Therapeutically, the author is in favor of "psychagogics" (The psychiatrist as guide rather than therapist). Glatzel reports on neurotic disturbances in the digestive tract and explains many symptoms which previously were not discussed by such authorities as Franz Alexander. Glatzel seems to have so organized his contribution that every practitioner can use it as a ready reference. Christian contributes "Heart and Circulation," examining the *Kreislauf* and its activity on the basis of certain reactions and attitudes of the patient. In another article he speaks about natural and disturbed breathing; he does not distinguish between primary psychological or primary physiological syndromes in breathing difficulties; rather he sees the breathing disorder from a holistic point of view.

In Series 14, the subject of "sleep" is dealt with in two articles. Frankl presents a stimulating casuistic theory and stresses the value of "paradox intentions" during sleep-disturbances. I. H. Schultz applies his *autogenic Training* to sleep disturbances. Frankl in another contribution discusses "psychogenetic disturbances of potency," including many suggestions for treatment based on researches by Stekel, Reik, Schwarz, *et al.* Wiesenhuetter in his article on "Social Neuroses" rejects Oppenheim's theory of the traumatic neurosis and stresses the input of the *Gelegenheitsapparat* (or *deus ex machina*), particularly in the treatment of hysteria. Hirschmann discusses "industrial" neuroses and distinguishes between real and apparent exhaustion. According to Hirschmann, these industrial neuroses are not only of a

negative value, but also can be considered as the "birthpangs of a new era and of mankind."

In Series 15 Bernard Stokvis speaks about psychosomatic medicine and believes that "orthodox psychoanalysis" is the choice treatment. He feels that the problem of psychosomatics should be attacked from the point of view of the "temperament," for it is the temperaments which underlie the receptivity (*Empfaenglichkeit*) to experiences leading to psychosomatic illnesses. Stokvis believes that all psychosomatic illnesses are still in *statu nascendi*. Hofstaetter's "The American Schools of Psychoanalysis" seems to make clear-cut distinctions, particularly for the German reader who hitherto has known little about the schools dissenting from Freud's teachings. Horney, Fromm, Sullivan, Rogers, Rank, *et al.* The author, who stresses his "neutrality," leaves it to the reader to form his own opinion. Victor von Gebattel discusses his own field, anthropological psychotherapy. He states: "Every neurosis, no matter what the syndromes, is usually a disturbance of the attitude of *sich-zu-sich-selber* (or the ego towards itself). From the anthropological point of view, it can only mean that any intention to help *therapeutically* (italics mine) will not be negated."

Series 16 contains "heavy" reading and will be dealt with lightly. Korgner and Polak discuss existential analysis (now very much in vogue in Europe); Frankl speaks of his own "Logotherapy." He believes that the "collective neurosis" is a symptom of contemporary nihilism. While recognizing some of Freud's principles, he thinks that adults can be treated "differently, for example, by a reorientation of the patient toward the world of the senses and of values."

Series 17, in its first part, is one of the most important items in the *Handbuch* as 2 of the editors, Frankl and Schultz, along with 3 other contributors, H. Mueller-Suur, H. Kranz, and R. Siebeck, attempt to define and to classify the neuroses, and to distinguish the neuroses from "psychopathic" syndromes and from the psychoses. But except for Kranz' contribution, "Differential Diagnosis of the Neuroses as differentiated from Psychopathy and from the Psychoses," none of the authors seems to take account of the great strides which have been made by American psychiatry toward a better and more unified classification and nosology of the neuroses and the psychoses. Nevertheless, it seems that some of the APA's researches have seeped through, though but indirectly. On the other hand, the American psychiatrist will be interested in classifications, brought about by von Gebattel's "cyclothymy," Lemke's "vegetative depressions," Lopez-Ibor's

phobia-"thymopathy," Petrilowitsch's "depression of alienation" (*Entfremdungsdepression*), Schulte's "depression of uprooting" (*Entwurzelungsdepression*), Stauder's "bankruptcy of pensions" (*Pensionierungsbankrott*), and many others. Some nosologies, as advanced by Kretschmer, Kolle, and the late Frieda Fromm-Reichmann, are better known in this country; others may be new here. At any rate, Prof. Schultz comes to the conclusion that "the multitude of attempts in the classification of the neuroses proves the inadequacy of any attempt, and the necessity to utilize a nosology according to one's personality, the history of the patient, *etc.*" The volume concludes with two valuable contributions: Schultz writes on the "Neuroses and Human Biology," and E. Wiesenhuetter on the "Sociology of the Neuroses," the latter again carrying the prize for his comprehensive treatment of the subject and an excellent assembled bibliography, nearly 1,000 references from almost all countries of the world!

Series 18 continues the study of the neurosis with regard to its nosology, its *Wesen und Grenzen* of the medico-psychological techniques and of the "psychotherapeutic situation." A. Vetter, for instance, examines the differential way in which the neurosis was treated by Freud and by Klages. Freud's graphic picture is illustrated by the "moralistic super ego" leading to the ego and from the ego to the instinctual id, whereas Klages has but two steps, the ego (or the *Willensgeist*) and the subordinated *Leibseelisches Leben* (somatic-psychic life). W. Braeutigam and P. Christian seem to divide (perhaps, artificially) the "goals" of psychotherapy between the various schools. A very important section deals with language as a means of communication. This aspect is currently subject to more discussion and examination on the Continent than in this country where the significance of semantics has escaped many of us, and not only in psychology and psychiatry! The balance of Series 18 is devoted to a detailed discussion of tests and statistics.

Series 19 contains, in the main, contributions by various well-known analysts and psychiatrists on the subject of training and teaching. J. H. Schultz discusses the general nature of educational techniques in the teaching methods for psychiatric students as well as, in another article, the problems of lay analysis. W. Kemper's suggestions and evaluation of training in psychoanalysis is, perhaps, one of the best this reviewer has seen and, in the main, corresponds with many American sources, particularly the voice of the APA. He is sharply contradicted

by Ernst Speer's article on "Psychotherapy practised by the layman." Whereas Kemper recognizes the practice of non-medical psychotherapists and presents detailed suggestions to control such practice and safeguard the public, Speer, on the other hand, labels all Ph.D.'s as frauds and quacks. Speer's position is unsupported and at least one editor has disapproved of it (in writing to this reviewer). Prof. Frankl has also disowned Speer's article and has left it to this reviewer to state so. Speer's otherwise fine contributions seem to be obscured by this unhappy contribution to the *Handbuch*. It seems significant that none of the other contributors side with Speer and that the editors have seen fit to have 5 authors write on the subject of lay analysis and non-medical psychotherapy. Whatever can be said of this Series, there is no lack of frankness or shying away from controversial issues and, therefore, the editors ought to be warmly commended for their courage and enterprise.

Series 20 offers but two articles: W. Ritter von Baeyer writes on "Neuroses, Psychotherapy and Legislation," and W. Kemper on "Basic Rules for the Psychotherapeutic Practice." Kemper's article is on a high level, makes for easy reading, and offers excellent material for ready reference for numerous details, such as appointments of patients, books in the doctor's office, magazines in the waiting room, telephone contacts, etc. Von Baeyer speaks of the "criminal impulse," its symptoms, and its legal implications. The latter are in accord with the German Criminal Code. Many implications would apply to our courts likewise, and many case illustrations indicate that German psychiatrists seem to work under similar handicaps (lag of progressive legislation for dealing with offenders) as do their American colleagues.

Summing up, the present 20 parts (constituting 3 of 5 contemplated volumes) bring to the reader the best thinking and research and practice of neurology and psychiatry to date. While it is understandable that not all contributions are equally high in standard and performance, it is this reviewer's opinion that, within given limitations only once in a life-time an enterprise is completed as satisfactorily and comprehensively as this *Handbuch*. It should serve an entire generation of psychiatrists on both sides of the Western Hemisphere as an excellent tool in their daily practice, in their teaching, and in their research. If a generalization may be permitted, German *Gruendlichkeit* and striving for *Universalitaet* seem to have been realized here.

HANS A. ILLING,
Los Angeles, Calif.

INSTITUTIONAL NEUROSIS. By Russell Barton.
(Baltimore: Williams and Wilkins Co.,
1959, pp. 52. \$2.50.)

Russell Barton of Shenley Hospital, St. Albans, England produced a brochure of 52 pages entitled, *Institutional Neurosis* depicting what he sees as the result of deprivation suffered by patients in mental hospitals. He defines institutional neurosis as follows: "This is a disease characterized by apathy, lack of initiative, loss of interest, especially in things of an impersonal nature, submissiveness, apparent inability to make plans for the future, lack of individuality and sometimes a characteristic posture and gait." Doctor Barton writes, "I claim no originality for the ideas presented; my purpose is to try to arrange them in an orderly manner so that they are more easily understood, more readily accepted, and more systematically treated." Indeed the only unique point is the attempt to develop a disease entity. The brochure itself points out with careful detail the system of living generally in vogue in the larger mental institutions. It properly should be read by all those who have the responsibilities for caring for patients, especially in a more or less custodial or long-term situation. It can well be used as a check list of habits, procedures, and traditions in patient care that may be harmful to the patients. It is good reading for all those who have such responsibilities.

HARRY C. SOLOMON, M.D.,
Commissioner,
The Commonwealth of Massachusetts,
Dept. of Mental Health.

THE ENCYCLOPEDIA OF THE BIOLOGICAL
SCIENCES. Edited by Peter Gray. (New
York: Reinhold Publishing Co., 1961, pp.
1119. \$20.00.)

This volume, excellently printed in double column, contains, I have calculated, about 1,200,000 words. The average novel of about 80,000 words costs \$5.00. At that rate this book should cost \$75.00. But it doesn't. It costs \$20.00. It is, of course, a bargain at the price, and, editor, publisher, and contributors are to be congratulated upon its appearance. It covers the whole realm of biology, including most of the outstanding figures in the history of the science who have contributed to its development. (Humboldt's name is thus spelt, by the way, and not as printed in the book, and Fallopius was never a student of Vesalius.) A few minor errors are unavoidable in a work of this size. There are 800 articles and

almost as many contributors. The book should establish itself as the standard work on the subject. The quality of the articles is, in general, excellent and authoritatively written, and some of them, like the article on population genetics, are small masterpieces. For the reader desiring an up-to-date reference work on virtually every aspect of biology, written briefly and clearly, this volume is to be highly recommended.

ASHLEY MONTAGU, Ph.D.,
Princeton, N. J.

CURRENT THERAPY—1961. Edited by *Howard F. Conn, M.D.* (Philadelphia and London : W. B. Saunders Co., 1961, pp. 806. \$12.50.)

The 13th annual edition of this highly successful book on therapeutics follows the plan of its predecessors : experienced physicians describe the methods which they use in treatment. The contributions of more than 300 doctors for the most part deal with diseases, but some common symptoms such as headache and diarrhoea are also discussed.

The psychiatrist will find sections devoted to neurosis, schizophrenia, depression, manic-depressive reactions and delirium which cover familiar ground. Perhaps more valuable for him will be some of the sections referring to therapeutic problems commonly associated with mental illness such as cirrhosis, narcotic addiction, epilepsy, neurosyphilis, nutritional deficiencies and various poisonings which receive extended coverage. Therapeutics has become a vast subject which can be presented in a variety of ways. This book might be classified as highly pragmatic, not concerned with pharmacology as an academic subject and not emphasizing the controversial aspects of some treatments. It unquestionably is a useful and reliable guide to the management of most conditions which a physician might encounter.

W. B. SPAULDING, M.D.,
Toronto, Canada.

EDGAR A. POE. By *David M. Rein.* (New York : Philosophical Library, 1960, pp. 134. \$3.75.)

It is no secret that much, if not most, writing that may be called literary is more or less autobiographical. In discussing the life and works of Edgar Allan Poe, Mr. Rein (Associate Professor of English, Case Institute of Technology, and author of *S. Weir Mitchell as a Psychiatric Novelist*, 1952) documents thoroughly this point of view. He agrees with Baudelaire, who early recognized in Poe a

kindred spirit, that in his constant preoccupation with scenes of horror Poe revealed a dominant masochistic strain so characteristic of himself. Said Baudelaire, "I found poems and short stories which I had conceived, . . . which Poe had been able to organize and finish perfectly . . . I was shocked and delighted to see not only subjects which I had dreamed of, but *sentences* which I had thought and which he had written twenty years before."

As Professor Rein amply demonstrates, Poe was his own worst enemy. In the development of his personality from youth time on there was no conformity to what might be called a normal or average or wholesome type. On one side there was brilliant if often sordid play of imagination and high poetic gifts ; on the other morbid restlessness and inconstancy and shocking irresponsibility—an overplus of intellectual qualities with the imbalance of the immaturity of a child, so often characteristic of the genius.

The present volume is useful as a concise commentary on many of the poems and stories, especially as illustrating the author's thesis that in his writings the poet repeatedly pictures himself both physically and in his overpowering emotional states and crises. Poe lost his mother at the age of three, and that this loss had a significant effect on his life is easy to understand without the help of John Bowlby, whom the author, perhaps needlessly, quotes. Throughout his short life Poe was to an extraordinary degree dependent upon the love and care of women, and his impulsive longing was expressed in varying phases as want of mother love, of the love of a wife, or of a devoted sister as represented by his child-wife, Virginia Clemm. In his letters he repeatedly expressed himself as desperately in need of affection and support, even declaring that he cannot go on without assurance of the devotion of one or another of the women who figured prominently in his life.

One can hardly disagree with the author that the dominant influence in Poe's unsettled career was the unhappy issue of a youthful love which at the time was a mutual attachment resulting in an engagement to marry. The poet seems never to have been reconciled to this loss which may have played a part in his subsequent alcoholic habits and the desperate and disordered mental state he often referred to in his letters. Just before his tragic death he paid a visit to the one he had first chosen to be his wife. In the long interval she had married the man of her father's choice, not her own, and was now a widow. But it was too late to go back and take up life again where it had been turned awry in their youthful age.

That tragedy may well be immortalized in one of Poe's most beautiful poems, *Annabel Lee*, which can hardly be read without tears.

C. B. F.

THE DISEASE CONCEPT OF ALCOHOLISM. By E. M. Jellinek. (New Haven: Hillhouse Press, 1960, pp. 246. \$6.00.)

This book starts with historical material concerning the concept of alcoholism as a disease. The discussions and arguments both *pro* and *con* are given in an interesting manner. Members of the American Psychiatric Association will be interested to hear that Benjamin Rush and Samuel Woodward were among those who advocated the medical approach to alcoholism. Benjamin Rush thought of inebriety as an illness and Samuel Woodward, the first superintendent of the Worcester State Hospital, suggested special institutions for inebriates.

The author goes into considerable detail in trying to define what is meant by the term disease. He quotes medical dictionaries to show that disease is defined as an illness or sickness. He believes, however, that the word illness is more acceptable to the general public. He concludes: "It comes to this, that a disease is what the medical profession recognizes as such. The fact that they are not able to explain the nature of a condition does not constitute proof that it is not an illness." He likewise points out "that the medical profession has officially accepted alcoholism as an illness, and through this fact alone alcoholism becomes an illness, whether a part of the lay public likes it or not, and even if a minority of the medical profession is disinclined to accept the idea."

The author also discusses what is meant by the word definition. He then defines alcoholism as "any use of alcoholic beverages that causes any damage to the individual or society or both. Vague as this statement is, it approaches an operational definition." He speaks about the "species of alcoholism" and describes Alpha, Beta, Gamma, Delta and Epsilon Alcoholism.

There are interesting discussions of the differing viewpoints about the use of alcohol, of the various legal arguments regarding the alcoholic receiving compensation for a disease and of the attitudes of many of the large corporations and the labor unions toward the question of alcoholism as a disease.

The author quotes from a great deal of the literature concerning the psychological and physiological formulations of addiction. Special attention is paid to the withdrawal syn-

drome and the concept that the alcoholic becomes dependent upon alcohol as the opium addict becomes dependent upon opium. He concludes that it is now well established that there is a physiological addiction to alcohol with physical withdrawal symptoms whenever the alcoholic either reduces greatly or stops completely his use of alcohol. He includes considerable material on the concept of delirium tremens and convulsive reactions being withdrawal symptoms.

These comments will give the reader some idea of the material to be found in this book and the attitude of the author. The book is an excellent and carefully prepared discussion of the writings that bear on the subject. The reviewer unhesitatingly recommends this book to anyone interested in the problem of alcoholism.

KARL M. BOWMAN, M.D.,
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MOLECULES AND MENTAL HEALTH. Edited by F. A. Gibbs. (Philadelphia: J. B. Lippincott Co., 1959. \$4.75.)

This is, in a sense, a monograph which deals with 2 separate but related problems in that the discussion centres around disturbances of brain function with biochemical determinants. It is a report of 2 conferences held in 1958 under the Auspices of the Brain Research Foundation. The volume was edited by Dr. Frederic A. Gibbs. Part I deals with amines in relation to brain function and behaviour. The speakers were men of experience in the field and the discussants, participants and guests were equally able men and women. The problems of ceruloplasmin and serotonin and the ergot hallucinogens were presented and discussed. Probably the most important feature of the book is the frank and pointed discussion which is recorded. Undoubtedly some will feel it could have been even more frank as much of the material presented is in need of the most searching criticism by chemists and psychiatrists. There is still a great need for controlled investigations in this field with an experienced psychiatrist as a separate somewhat disinterested member of the team. Alterations in human behaviour simply have to be studied in terms of sequence of events and not in cross sections and this aspect of the work is often not adequately developed by those interested in what has been called psychopharmacology. Part I is recommended to all those interested in the field of psychiatry.

Part II deals with the subject, infantile spasms and their E.E.G. counterpart—hypsa-

rhythmia, which is of increasing interest to psychiatrists, neurologists and pediatricians. Every angle of this serious disorder of brain function was considered, including pathologic features characterized by spongy degeneration of the brain. This is a special problem in cerebral and cerebellar degeneration of infants and children. It was well reviewed at the conference and the discussions are highly recommended to all interested. Causes, mechanisms and treatments were considered with frank discussions of each aspect. It is an excellent symposia.

In summary, this book has much to commend to all interested in brain dysfunction from a biochemical standpoint; hence, of special interest to psychiatrists and neurologists.

ALLEN A. BAILEY, M.D.,
University of Saskatchewan.

A MANUAL OF PSYCHIATRY. By K. R. Stallworthy. (Christchurch, New Zealand: N. M. Peryer Ltd., 1959, pp. 365.)

This book, a fourth edition, originates from the pen of the Medical Superintendent of the Takani Hospital, Te Awamutu, New Zealand. The preface dated January 1959, states his aim "To give the medical student, general practitioner, or nurse a factual account of what is likely to matter to them." However, the book reflects the vast practical experience of the author in a distant country and to an American psychiatrist who is willing to read between the lines the book can be a fascinating source of information about residual differences in a technical field where ever more efficient communications keep driving all the world toward a dead-level of universal similarity.

To achieve his goal the author has had to expand his subject matter to include a more heterogeneous content than what would be found in similar American texts. This includes such items as mental deficiency, a considerable amount of neurology, epilepsy, some syphilology, acute delirious states, as well as psychodynamics, descriptive psychiatry, legal aspects, administrative psychiatry and somatic therapy.

All this has been compressed into 267 crisply written pages filled with simple direct definitions aimed at his chosen audience. The style is concise and the point of view conservative even as to terminology which will sound strange to most American professionals of recent vintage. Among such terms are "toxins" which are invoked as a cause of mental abnormality, "melancholia," "weak-mindedness," "G.P.I.," "tranquillisers," "delirious mania," "chronic mania," "dement," "insane," "sleepy

sickness," "paraphrenia," "schizophrenic dementia," and "demented paranoid schizophrenia."

Differences of practice as well as terminology seem to be reflected in the text. One finds a full page on hydrotherapy, 2 pages on malarial therapy with indications that a strain of inoculation malaria is still kept active, almost 5 pages on leukotomy, 7 pages on insulin coma, 10% on electric shock, and only 2½ pages on tranquilizers. Allowing for the fact that this was written about 3 years ago there still appears to be less dependence on drugs than one might find in this country. The author states "Such drugs relieve certain symptoms, sometimes; they do not cure." On the other hand he states with regard to chlorpromazine "It acts within a few days if at all," and continues, "but those who are no better from 150 mg. a day are unlikely to benefit from more." Doses apparently range up to 250 mg. per day.

There is a lack of discussion of the newer antidepressants which may be explained by the date of the writing of the book. Certain aspects of psychiatric organization such as family care are apparently not important. On the other hand the general attitudes toward hospital organization and community participation seem to be very similar to those generally held here.

The similarities outweigh all the differences which can be found. The section on alcohol reveals an extensive experience essentially similar to our own although heroin is but "another dangerous drug of addiction" its only description in an entire chapter. The open ward philosophy is a part of standard hospital practice and the text reveals an increasing importance in problems of child psychiatry and psychiatry of the aged.

All this may be of interest as background reading for students, in spite of differences in nomenclature but a trend of broader interest may be the pattern of participation by the general practitioner, one of the three main groups toward whom this book is directed. This is reflected in the fact that new sections were added to the present edition on tranquilizing drugs, psychiatric disturbances in childhood, senility and pregnancy and on personality reactions to physical disease. Perhaps the developments with regard to "G.P.I." represent a shadow of things to come. "The treatment of G.P.I. now involves primarily adequate dosage with penicillin, perhaps a million units a day for a month." Who can deny that with these few words the practitioner moves into a treatment position unreached by the specialist

when diagnosis and treatment were more complex. A similar emphasis on psychiatry in general practice is reflected in the 5% pages of description of puerperal psychoses and in the treatment of another practical problem, namely, head injury.

In summary, this book may be said to contain much food for thought as well as background reference material for students.

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LOWIE'S SELECTED PAPERS IN ANTHROPOLOGY.

Edited by Cora Du Bois. (Berkeley and Los Angeles: University of California Press, 1960, pp. 509, \$10.00.)

Robert H. Lowie (1883-1957) was one of America's most distinguished anthropologists. The present volume reprints some 33 of his most significant contributions to the anthropological literature, and together they constitute a rich cornucopia indeed. Those contributions range from kinship and social organization, psychology and sociology, race, totemism, and history, to literature, aesthetics, and language. It is a delight to participate with a first-class mind in the exploration of human nature in a volume which is a fitting memorial to a pioneer anthropologist.

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AUTOMATION, CYBERNETICS AND SOCIETY. By F. H. George, Ph.D. (New York: Philosophical Library, 1959, pp. 280. \$12.00.)

The onset of the industrial revolution marked the end of an epoch and ushered in the modern world, which although it has provided greater material wealth, and comfort, has done so by degrading the dignity of man. Technology, like the broom of the sorcerer's apprentice, has escaped from control and gone on a rampage. The next phase of the industrial revolution, known as automation, has suddenly confronted mankind and threatens to reduce so-

ciety to chaos. The development of automation has inspired the expounding of communication theory, and exploring its ramifications and implications. Since the direction and control of both man and machines depends upon communication, the guidance and control of communication, in the broadest sense, is vital for the welfare of mankind. This guidance and control is known as "cybernetics."

As an academic science, cybernetics can be defined as the science of communication, yet it implies the integration of an intercommunication between biology, the physical sciences and mathematics on the one hand with engineering, the social sciences, and economics on the other. If the integration is adequate the present phase of the industrial revolution will be accomplished without a major social upheaval.

In this book, Dr. George has explored the problems facing society, and found that the major hurdle is control; communication is the fundamental instrument of control. If society is able to direct technology, then the full measure of human dignity will be restored to man, and he will enjoy the wealth of his technological advances.

The volume is divided into 3 unequal sections each of which deals with one aspect of cybernetics. Each section can be read independently of the others, yet forms an integral part of the whole. The first part (45 pp.) deals with the social and scientific milieu which has produced the present unstable situation. The next 150 pages deal with the established scientific background of cybernetics and automation, while the last 75 pages discuss the application of these principles to the social scene.

It is a luckily written volume, which presents the argument in a reasonable and orderly fashion. In spite of this it is a book that demands close attention, for it presents many concepts that will be new to most readers, yet the result is worth the effort for the ideas are provocative and the implications spread into all aspects of life.

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THE ACADEMIC LECTURE

THE HEURISTIC ASPECT OF PSYCHIATRY¹

SEYMOUR S. KETY, M.D.²

For years I thought I knew exactly what should be said to this important body of psychiatrists if one had the unusual opportunity of pontificating before them. Now that your distinguished president and my kind preceptor has given me that opportunity, I falter. In these Fellowship Lectures a notable series of scholars have variously justified, judged, jeered, jugulated, and on one occasion even jilted you (in a remarkably cogent demonstration of the Uncertainty Principle). The lecture today can be traced directly to a meeting in the spring of 1951 with Robert Felix, your president, who excited me to leave a laboratory of cardiovascular physiology and to join a great institute he was building. For ten years I enjoyed the privilege of participating in a unique program of psychiatric research which was developed in the atmosphere of scientific freedom and sympathetic support with which he endowed it. It may be of some interest to read the impressions of one with such a background who has willingly and not unsympathetically wandered into psychiatry. I need not point out for this audience that these are ruminations based upon my observations but also upon my biases.

Much has been said of the relative lack of research interest in the field of psychiatry, compared with the strong motivation towards therapy among its practitioners and those who come for training. It may well be that this perception contributes to the position of surprisingly low prestige which psychiatry occupies among the medical specialties in the eyes of the medical student, at least as a recent survey in 3 schools indicates⁽¹⁾. If it is true that a vigorous motivation towards research has

only recently entered the field of psychiatry in contrast to some of the other branches of medicine, it is easy to see why.

There are fields of human endeavor where the initial motivation and achievement have been in the acquisition of fundamental knowledge, which only later has led to application. The demonstration of induced magnetic fields about an electrical conductor occurred before the development of the electric motor; basic knowledge of atomic structure was at hand before the possibility of fission and the release of atomic energy could have been realized. There are other fields, historically, where application has come first, to be revised, substantiated and improved upon by subsequent inquiry and accomplishment. Man made fire before he knew about oxygen and built bridges before he learned of Hooke's Law.

As opposed to the natural and the physical sciences, medicine and psychiatry, especially, are disciplines motivated to a large extent by a sensitivity to human suffering. It is easy to see how such a polarization might have distorted the orderly growth of these disciplines from the simpler pattern which cold logic would have preferred. The physicist, the chemist, even the neurophysiologist can be patient—building small but hard facts one upon the other for a purpose in which he has faith but whose ultimate outcome he may not live to see. The neutron did not come begging to be discovered, but the patient suffering from disease or troubled or incapacitated by conflict cannot wait. The physician to whom he turns for help can hardly say, "Come back in three centuries or so when we may really understand these things."

Every branch of medicine has begun with therapy; only later and gradually were the basic and clinical sciences drawn in. We have seen in their order anatomy and pathology taking an early place as important medical sciences only 300 or 400

¹ Read at the 117th annual meeting of The American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

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years ago. There was a long lag even after Harvey's notable achievement before physiology became recognized as a science which had contributions to make to medicine. Bacteriology struggled long to gain a foothold, then repaid its acceptance with a series of contributions to the alleviation of human illness which are still unmatched. Biochemistry, within the recollection of many of us, entered the field in strength and today is at a well deserved peak of acceptance, achievement and promise. The behavioral sciences have only recently begun to make their way into the medical curriculum and into the recognition of the physician as sciences basic to medicine. They have already begun to make remarkable progress but their most exciting potentialities and contributions remain ahead of them. Lagging far behind the development and recognition of the basic sciences, the various branches of medicine have marched from a therapeutic art to a clinical science. Much of this progress has occurred within our lifetime. The *materia medica* which our fathers learned, aside from a relatively few agents like digitalis and the hypnotic drugs, was elaborately specious, developed before modern pharmacology and perpetuated by the peculiar selectivity of uncontrolled clinical experience.

As recently as 52 years ago a small group of Young Turks, impatient with the impressionistic and anecdotal nature of medicine, organized the American Society for Clinical Investigation whose aim was to be "the cultivation of clinical research by the method of natural sciences; the unification of science and the practice of medicine; the encouragement of scientific investigation by the practitioner, and the diffusion of a scientific spirit among its members." Thirty-five years ago, in 1924, the Society first began the publication of its *Journal of Clinical Investigation*. On the first page of the first volume of that journal appears its first and last editorial, a noteworthy paper by Alfred E. Cohn, entitled "Purposes in Medical Research"(2). A study of that paper gives one a sense of the revolution which was taking place in medical thinking, no farther away than yesterday, and a taste of the judicious zeal which motivated some of its leaders. Most interesting of all one

can see in those pages an anticipation of the same renaissance which one feels is taking place in psychiatry at present. I should like to quote some of the passages:

We have . . . for some time been inquiring whether medicine is entitled to be called a science. To us the answer to this question is clear and unequivocal. It is clear because of the nature of the case. The phenomena of interest in medicine are the phenomena of disease as these are manifest in affected persons. They are phenomena which exist as concrete entities in nature, they are indivisible and they fall within the province of no other inquiry. They constitute the proper concern of medicine. Nor are the phenomena of disease the combination or resultants merely of other forces. They are not the resultants of forces known in physics or chemistry, or in physiology or mathematics, nor the resultants of any combination of these. Rapid and shallow breathing, for instance . . . remains a unique phenomenon, even though the terms in which it is characterized are anatomical or physiological or chemical. Anatomy or physiology or chemistry may supply the methodology for analyzing its occurrence, but the occurrence is something apart from and over and above the factors into which it can be resolved.

There is another passage, remarkable in its applicability to the present ferment in psychiatry:

This, then, is the task which academic medicine in the United States, now become self-conscious, has set itself; it is the task of Clinical Investigation. Its business involves a legitimate interest in learning as well as a means for furthering methods which lead to the cure of disease. It is vitally concerned in the success of both these projects. . . . *We must appreciate the fact that perhaps there is no single road of salvation open; search for the single road has often led hunters far afield.* (italics mine)

To give substance to ideas like these is the purpose which lies behind the work of the university clinics which are being founded in many parts of our country. They mean to take on new functions. Those on which they lay emphasis indicate the adoption of a wider interest in the problems of concern to medicine. In addition to the traditional responsibility for teaching, they avow the desire to contribute to an increase of knowledge. They are drawing to themselves new men, trained in a new way; they are being supplied with

new hospitals properly equipped with laboratories in which to pursue what Bernard called the *observation provoquée*.

Those forthright words reflected a development in medicine which contributed I am sure to the burgeoning of medical research to an unheralded state of acceptance, activity, and productivity. I have little doubt that a similar course, accelerated now by the unprecedented public support which it is receiving, lies ahead for psychiatric research; in fact, we are already well embarked upon it.

This ferment in psychiatry has a rich mash. Even a casual glance at the accomplishments in the basic disciplines of psychiatry in the past decade gives one cause for some gratification and optimism. The electron microscope, only recently applied to the nervous system has begun to outline the structure of what heretofore has been an operational concept—the synapse, and to establish the precise localization of certain neurosecretory elements within the cell(3, 4). Embryology in association with immunochemistry has very recently seen the development of growth promoting substances with specific action upon nervous tissue and the ability specifically to inhibit the growth of certain nervous tissues by their antibodies(5). Anatomy, joining hands with physiology, psychology and even sociology, has advanced our knowledge of the functional organization of the brain and its relationship to individual and social behavior(6, 7). Great strides have been made in the mapping of the human cerebral cortex and in the relationship of cortical physiology to subjective states and memory(8). Studies in the limbic system have elucidated some of the physiological substrates of affect, emotional state and sexual behavior(9). Highly specific chemoreceptors in the hypothalamus have been discovered capable of triggering appropriate sexual behavior in response to sex hormones(10). The reticular system and the more recently described sensory feedback systems have provided new concepts of the control of attention and the modulation of sensory input(11, 12).

In the past 10 years the field of neurochemistry has gained recognition and status

as a discipline. It has learned much about the energy metabolism of the brain and its correlation with mental state(13). The presence of norepinephrine and serotonin and other biogenic amines differentially distributed in significant fashion within the brain has been discovered and considerable research invested in their role in behavior and in the action of a number of psychotropic drugs(14, 15). Much has been learned of the synthesis and degradation of epinephrine, the first of the chemical mediators of mental state to be described(16, 17). This information has permitted the study of the metabolism of that hormone in schizophrenia(18) and will make possible measurement of its endogenous production in a variety of clinical conditions and disorders. Protein turnover and metabolism have been examined in the brain and the beginnings of support are appearing for the interesting hypothesis that in the protein molecule may lie some of the answers to the riddle of memory(19).

In the basic behavioral sciences there has been much activity of interest to psychiatry during the past 10 years. The imprinting process, the basis upon which young animals acquire crucial behavior patterns from early experience on a genetically prepared substrate has broadened our concept of instinctive behavior(20). The appetitive and aversive centers in the brain may have important significance to the physiology of affect(21). The widespread use of the conditioned reflex and the technique of operant conditioning has opened wide the study of some of the fundamental aspects of learning, motivation, and drug effects(22). In other branches of medicine the development of an animal model of a human disorder has frequently served as the spearhead for rapid progress toward its understanding and alleviation. Animal models of neuroses, anxiety states, and psychosomatic illness have now been described(23, 24) and the recent paradigms of maternal protection and deprivation in monkeys(25) will provide hypotheses for the more complex phenomena in man. Hilgard(26), Mirsky(27), Kubie(28), and Benjamin(29) among others have masterfully reviewed the evidence from basic research both in animals and man which support some of the funda-

mental assumptions of psychodynamic theory and which will serve as the bases for further heuristic hypotheses.

Although one tends to highlight those findings which seem to have greatest possible relevance to psychiatry, there are many more contributions of possibly greater moment whose relevance at the present time is obscure. I believe it was Virchow who said 100 years ago that biochemistry had little to offer at that time to pathology or to medicine, but he was quite sure that the time would come when it would.

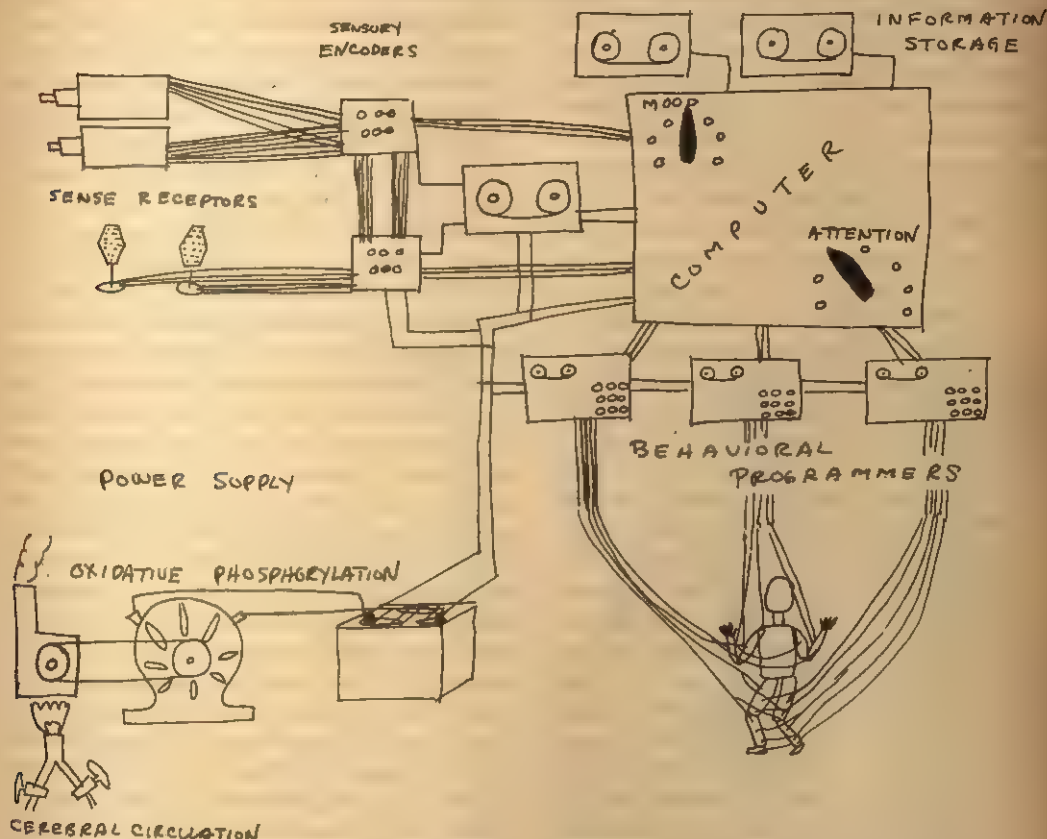
When we turn to mental illness, it appears that the practical accomplishments of research in the recent past have been few and the progress disappointingly slow. The accumulation of fundamental information goes on for a long time before it is possible to fit together the essential facts in a hypothesis which requires an equally long time for its evaluation. When we recognize the utter complexity for the field of human personality and behavior, normal as well as disordered, we are forced to assume that the stepwise progression toward an understanding of these phenomena will be slow indeed; only rarely and by the sheerest stroke of good fortune will there come a surge of material progress. Aside from paresis, the mental syndrome of pellagra, certain other toxic and metabolic psychoses, and phenylketonuria, the biological sciences have not yet contributed significantly to the understanding of etiology, and these achievements were accomplished some time ago. Other than that we have only hypotheses for the etiology and the pathogenesis of the mental disorders which continue to plague us.

Interestingly enough we tend to forget about the important achievements which have been made, such as those which I have enumerated, since once a mental disorder is reasonably well understood and has had its etiology and pathogenesis adequately explained it ceases to be part of psychiatry, as if we insisted that only the mysterious ailments were psychiatric in nature. Or is it that the training of so many psychiatrists of this generation is so predominantly in psychodynamic theory to the exclusion of the biological and even the social and psychological sciences that he feels uncertain

or aloof in the management of disorders where the important factors in etiology are biochemical or microbial, and relegates them cheerfully to neurology or to medicine? This would be unfortunate, if it were true. We need no longer today reiterate the thesis that the roots of psychiatry are just as firmly planted in biology as in the sciences which deal with experience and human relationships. If, on the basis of preconceived notions or the bias of particular training, we chop off one of these major roots, can we expect the tree to flourish? To state this position more clearly, I have sometimes employed a little diagram of the mechanisms of human behavior (Fig. 1).

Not all of the parts of this drawing are based upon established fact, and I expect that in the next few hundred years there will be some revisions in it. Yet I cannot help but feel that it *represents* the actual situation even though it describes it inaccurately. Human behavior, especially in those aspects which make it peculiarly human, has two important and absolutely essential components. There is the machinery and there is the incoming and stored information based on experience. There is no single discipline, unless it be psychiatry itself in its broadest sense, which is capable of describing and comprehending both components (30). In any disorder of behavior the so-called "lesions" are in both of these components, although it is possible for the primary defect to be in one or the other. Thus in the three conditions which I have already mentioned, paresis, pellagra, and phenylketonuria, the primary defect is in the machinery (if we confine our attention to the afflicted individual and for the purposes of this argument neglect a more fundamental lesion in society). I have no doubt at all that there are other disorders of personality and behavior where the primary disturbance has been in experience reflected in the stored information; and similarly no doubt that still other disorders require defects in both of these spheres. Although lesions have been postulated for many disorders in each of these areas, I think it is fair to say that none of them has been demonstrated with the rigor and clarity which characterize the three conditions I have mentioned. The

FIGURE 1
The Mechanism of Behavior (Diagramatic)



"chemical lesion" of schizophrenia and the specific aspect of parental or family influence which are "schizophrenogenic" have in common the fact that they are both hypotheses. But they are heuristic hypotheses and are responsible for considerable current research.

There is need in such a scheme for both analytic chemistry and psychoanalysis, using the latter in its research rather than its therapeutic sense. The neurochemist can, if he is sophisticated, look for particular chemical components and study their metabolism in the brain. Before he was able to do that, however, it required a Thudichum to analyze the brain as a whole to the best of his ability, using the techniques which he had available and trying to introduce a minimum of denaturation or distortion to the compounds which he isolated, so that he ended up with a weighted analysis of the brain. In the same way the psychoanalytic process in its purest form can be looked

upon as a sort of information retrieval. Of course one can formulate specific questions and, using techniques of modern sociology and psychology as well as the examination and interview of the skilled psychiatrist, obtain responses to specific questions. But in order to know what questions to ask it would seem to be of fundamental importance to have some approximation to a total analysis of the object of discourse, be it brain or information, be its components "free" and "bound," or "conscious," "preconscious" and "unconscious." It would also be useful to know the relative weightings of these components in the whole. To some extent a non-directive psychoanalytic technique fulfills these criteria, at least it does so better than any other technique which we have today, especially if it recognizes and makes some compensation for the distortions introduced by the analytical procedure.

I seem to hear murmurs of objection to

this elementary formulation from two camps. The one rebukes me for having idealized the psychoanalytic process. They say that I have ignored the incrustation of dogma, authority, circular reasoning, and self-fulfilling predictions which mark the psychoanalytic school. There are others who will say that this reduction of the psychoanalytic process is childishly naive, has discarded the rich contributions of psychodynamic theory, the values of transference and counter-transference and other important aspects of interpersonal relationships which are inextricably bound to the psychoanalytic process, or that I have stripped and dehumanized "the most insightful contribution to our understanding of human nature in the history of humanity" (31). To whatever extent these allegations are true, I have provoked them deliberately, in order to find an essence in psychoanalytic process which can be accepted by the most critical scientist as a minimum achievement or desideratum.

I must also confess to a little impatience with the recurrent debate on whether Freud was a pretender or an intellectual superman whose theory must, *ipso facto*, form the basis of modern concepts of human behavior; whether his followers are specially anointed with unique insights into understanding the human mind, or a group of benighted, doctrinaire and unscientific partisans. Such *ad hominem* arguments have no place in the forum of science. I prefer to look at Freud with a certain amount of detachment and in the context of his time. Borrowing heavily from the work and opinions of many others (as we all do and should), he elaborated a theory, or more properly a group of theories, and against much opposition promulgated them with such conviction and zeal that it broadened the field of psychiatry and revolutionized the concepts even of his adversaries. The validity of his particular theories is not nearly so important as the cogency of his point of view nor as the probability that he contributed substantially to introducing into the discourse on human behavior the idea of the importance of unconscious elemental drives and experiential factors, and led the movement which was, to a large extent, responsible for adding the information component to the mechanism of be-

havior. He did this at a time when the consensus of thinking was emphasizing the overriding importance of anatomy and pathology, when constitutional factors were thought capable of explaining all aspects of behavior from chorea to criminality.

It is nevertheless true that most of these theories have not yet had the opportunity and advantage of testing and validation by the accepted methods of science. As a gratuitous personal opinion, I doubt whether Freud's theories will eventually turn out to be the most complete or valid explanations of human behavior. If they did it would be a really unprecedented achievement. Galileo invented a telescope, made some observations on free fall, and promulgated his own opinion and that of others that the earth revolved about the sun. Newton found some important generalizations in the simple motion of material objects and derived a mathematical expression for the force of gravity. William Harvey, building upon the work of others, postulated the circulation of the blood. These great human achievements would be surpassed by far if it were true that Freud, on the basis of his own knowledge of anatomy, physiology and the behavioral sciences, or even upon all that was known in his time, could have developed a theory which explained even a significant segment of the fantastic complexity of human behavior. To whatever extent his theories will be substantiated, modified or refuted by scientific evidence which is now beginning to be acquired, his contribution to psychiatry will remain a permanent and substantial one.

Many reasons have been given which purport to explain why psychiatric research, especially that which is designed to test psychodynamic theory, is different from research in other branches of medicine or science, and why the usual rules of scientific evidence cannot be applied to it. I remain unconvinced that psychiatry is a field apart from other areas of scientific discourse. Although I recognize the cogency of many of these arguments, I would prefer to think of them as possible pitfalls or as difficulties, greater in this field than in others, which must be taken into consideration and must somehow be overcome.

There is the strong feeling in some quar-

ters that research and good therapy are incompatible. It is felt that regardless of the validity of the hypotheses or interpretations, it is therapeutically important that the patient believe them implicitly. It is further felt that doubts and skepticism on the part of the therapist which are admittedly the important qualities of the investigator would somehow be communicated to the patient, with a resultant loss in his confidence and in the efficacy of the therapy.

While all of this may be true there is no acceptable evidence for each of the assumptions which it makes. I have heard perfectly plausible psychodynamic explanations of why research is threatening to patients but, interestingly enough, equally convincing psychodynamic explanations of why it is supportive. Since the evaluation of the efficacy of even the major forms of psychotherapy has been so long in coming, I doubt that anyone has had the means or the inclination to test the comparatively trivial question of the effect of skepticism in the therapist. In the long term study of Whitehorn and Betz(32) on the relationships between personality factors of therapists and their therapeutic results in schizophrenia, although many variables have shown a significant relevance, skepticism or conviction have not been among them. To the hypothetical opinion stated above, I should like to offer a counter one. This would be that, just as the "training for uncertainty" is important in the education of other physicians(33), so this feeling of uncertainty and humility is of value to the psychiatrist; that the average patient is sensitive enough to recognize what the psychiatrist can be expected to know and what he cannot. It is possible that confidence is reinforced when the psychiatrist speaks authoritatively from his vast and special experience with observations of other human beings in similar situations and when he makes recommendations based upon them. When in addition he admits that he, and medical science generally, do not know all of the answers to the causes of the problem, it is even possible that this may strengthen the human bond between them. In any case, if we agree that neither one of these two opposing hypotheses has been proven, we can at least make a reasonable prediction of what the

result would be if we assume one or the other to be correct and behave accordingly. If skepticism were repressed, would we not guarantee that progress will stop and present opinion be perpetuated and even reinforced by the uncritical selection of data from the vast supply available? On the other hand, will not the skeptical attitude, on the basis of all our experience in other scientific disciplines, make for revision and improvement and progress?

Another major problem, often a bar to psychiatric research, is the idiosyncratic nature of human personality and therefore presumably of mental illness. There is no doubt at all that human beings differ remarkably one from another, not only in the field of personality, but also in every anatomical and physiological aspect. It is also true that the personality differences are such that the variance which may be introduced in that sphere or in behavior by individuality is magnitudes greater, because of the tremendous leverage in the behavioral field, than the variance which occurs, let us say, in the action of the heart or in the digestive system. Admitting freely that each individual is a phenomenon unique in the universe, there is still the question whether that individuality depends upon a specific arrangement and weighting of a considerably simple alphabet of common factors, or whether the very alphabet is unique to the individual. All the biological and the behavioral sciences are based upon the assumption of common factors of which we all partake in different degrees and combinations. Psychodynamic theory not only accepts but is based upon the existence of these common factors; indeed, I never cease to be impressed with the small number of variables into which that theory in its classical forms has managed to compress so many aspects of human behavior. If the assumption of the importance of common factors is correct, then psychiatry is not qualitatively different from every other field of biology which, recognizing the uniqueness of the individual, nevertheless attempts to study the common factors and how they are combined to produce that individuality. Statistical techniques have been devised, are available and are being used in every other science which permit

one to tease out the variables involved and to weight them appropriately in the resultant, and psychiatry has begun to take advantage of them.

An unfortunate corollary of the recognized idiosyncratic aspects of personality is the rather alarming tendency today to neglect the older concepts of nosology and the description and classification of mental disorders. Diagnosis is undervalued and mental illness is being regarded less as a "disease" or even a "disorder" and more as "a way of life," or an individual adaptation to a unique life situation. If such were the case, of course, it would follow that what was formerly thought to be a categorical disorder is now unique for and peculiar to the individual patient. It would follow, also, that there is little sense in concerning oneself with "schizophrenia" or "anxiety neurosis." One should really speak of John Jones' Disorder or Mary Smith's Syndrome. Here again I fear that we are dealing with a hypothesis which is being given the clothing of a fact. It is easy to see how appropriate and important it was to emphasize the concept of individuality at the time when Adolf Meyer did so, when Kraepelin's nosological categories were generally assumed without evidence to represent diseases with specific and simple etiologies, pathogeneses, predictable prognoses, and

stipulated treatments. It is no longer necessary to accept either assumption; it is quite possible to recognize that phenomenologically at least there are significant clusters in the expression of mental disorder. It seems rather rash to discard the decades of careful clinical description for an unverified hypothetical postulate. Of course it is possible to exaggerate the diffuseness of these categories by concentrating upon the relative minority of patients who seem not to fit neatly into any of them, but in doing so we forget the many who do and their general consistency and reliability.

In Vera Norris' comprehensive study of mental illness in London (34), there was a recent opportunity to re-examine the reliability of some of these classical diagnostic categories, in a study of a large series of patients who were seen and diagnosed in a brief observation at a receiving hospital and in a much longer stay in a mental institution. It should be pointed out that no effort was made to emphasize the importance of diagnosis or to refine the diagnostic techniques since this study was done after the fact and represents the unpremeditated, unimproved reliability of the diagnostic categories as they are employed in London. Table 1 represents a summary of her results, indicating the percentage of concordance in the diagnosis between the 2 institutions for

TABLE 1

Diagnostic Concordance Between Observation Unit and Mental Hospital
(from V. Norris, *Mental Illness in London*, 1959)

	% concordance	
	Men	Women
Schizophrenia	74	62
Manic Depressive	63	69
Senile psychoses	61	61
Epileptic psychosis	93	88
General paralysis	90	78
Alcoholic psychosis	79	48
Psychoneuroses	62	46
Mental deficiency	75	68
Disorders of character and behavior	44	42
All psychiatric disorders	62	58

each of several diagnostic categories. There is a remarkable consistency here, all the more remarkable since most of these diagnoses are made without the advantage of x-rays, blood tests, or other objective and sometimes pathognomonic criteria. I wonder whether a random sample of medical diagnoses generally would yield a significantly higher reliability. It seems unfortunate to close our eyes to these obvious clusters as a reaction to preconceived and unwarranted notions of their significance with regard to etiology, genetics, prognosis or therapy. Where we have no clear idea of etiology or pathogenesis, treatment should and will continue to be based upon the individual interaction between the patient and his life situation. But to discard those common clusters of symptoms is to throw out information and exaggerate chaos.

It has been said, usually by those outside the field, that psychiatry depends too much upon subjective observations ever to become a science. To this I take strong exception. It is not subjectivity itself which keeps a field from being scientific, but a failure to recognize, minimize, or compensate for subjective error. The human senses are notoriously imprecise, variable and fallible, although this ignores the ear of a Toscanini which could recognize a deviation from the correct frequency of 1 part in a thousand. Used properly, however, all that the unaided senses of those of us not so gifted need introduce into the observation is a larger standard error of measurement. The internist of 150 years ago is reputed to have been able to diagnose diabetes mellitus by tasting urine, and even today some research has been done in which the most sensitive instrument which could be found was the nose of expert tasters(35).

But human observation and subjective evaluation is corruptible, infinitely more so than the needle on a spectrophotometer. It is notoriously influenced by the motivation of the observer, the internal or external rewards which come from making a discovery, and from various social pressures. Mouton and his associates(36) have shown that so simple a task as counting the clicks of a metronome can easily be made to yield false results if such are reported by others. This pressure of subjective bias operates

in two interesting ways. In the first place, it may obviously influence the initial data themselves, certainly when they are subjective but even when they are as objective as the taking of a reading on a calibrated scale. It is a commonplace observation in a laboratory of physics or chemistry that such readings are not entirely independent but are influenced by previous ones, so that the careful physicist makes sure that knowledge of a previous reading is obliterated by a process of randomization in obtaining each new one. Where the observation itself is subjective, however, the problems are greatly increased. The psychopharmacologist has attempted to get around this difficulty by the use of the so-called "double blind technique," in which, if properly used, the chance that the crucial observation will be influenced by knowledge of the hypothesis or of the expected results by either the patient or the observer is minimized. It is relatively easy to do this in drug studies and in other biological observations and all the more lamentable when it is neglected, as it so often is. I have in another context pointed out the deficits in biological research in schizophrenia in this regard (37), but similar or even greater deficits exist in other areas. The double blind design has had practically no application as yet in studies of social and psychodynamic variables, especially at the clinical psychiatric level. The genetic studies in schizophrenia have not taken every precaution to prevent the hypotheses being tested from contaminating the data being recorded, while in the growing field of the possible influence of family factors on the genesis of schizophrenia few of the studies have taken this problem into account.

John Clausen in his excellent review of *The Sociology of Mental Illness* points out some of these influences(38) :

These theories have been derived from studies of schizophrenics and their families after they have accommodated themselves, in one way or another, to the fact of illness. The processes observed in the families of schizophrenics under treatment may be resultants of the families' experiences with the illness rather than factors of etiological significance. In some instances, indeed, it appears that the conditions under which the families are studied may

themselves accentuate the relational tendencies to which attention is being called. The test of these theories requires work with normal families from a variety of backgrounds, in a variety of observational settings.

Even after that is done it will be necessary that the observer who is evaluating the family setting be kept free of bias regarding the presence or absence of a schizophrenic member. Of course to do truly double blind, well controlled research in these fields would be a Herculean task; most of the past and current investigation is still in the stage of pilot studies in which hypotheses are being generated rather than tested. One hopes, however, that before these hypotheses are accepted by the investigators or by psychiatry generally the problems inherent in performing such a study will have been worked out.

Most scientists in every discipline are aware of this common source of error and attempt sooner or later in the development of their study to prevent it by appropriate research design. A more subtle type of subjective bias which is not as generally recognized is the conscious or unconscious selection which is interposed between the taking and reporting of an observation. There is a universal and perfectly human tendency to accept uncritically those observations which support one's preconceived or hoped-for notions, and to examine much more critically and reject for what apparently is good cause the observations which tend to discredit them. Hardly ever are the conditions under which an observation is made completely perfect, in most types of research with which I am familiar. There are always factors such as temperature deviations, changes in atmospheric pressure, in pH, in the reagents, in the subject, or in the observer, in every observation that has ever been made. It is an easy matter, therefore, to find valid and convincing evidence for the rejection of observations that one does not like. This, I suggest, has been a major source of confusion and error in the scientific literature.

This failing is not peculiar to psychiatry or even to biology. We all secretly envy the physicist who deals with such beautifully precise and objective instruments and such

simple and immutable phenomena. Figure 2 is a chart of the measurements of the velocity of light which have been made throughout the world in the past 30 years (39). I have deliberately broken the ordinate in order to exaggerate the errors involved and to make them less humiliating to biological and behavioral scientists. Although the magnitude of errors is perhaps 10,000 times less than the errors with which we deal, their effect upon the measurement and the reasons behind them appear not to be materially different. We note that over the 30 years in which these particular measurements have been made there does not appear to be a random scatter of the results which we would expect through the operation of experimental error. Rather there seems to be a clustering of the results, for which one can offer some hypotheses. The first result is one which was made by Michaelson in 1926 and was somewhat lower than the value accepted until that time, based upon a considerable number of older measurements. Michaelson was in the midst of making a second series of measurements some years later but unfortunately died before they were completed. His associates published the results posthumously; these results are also shown, significantly lower than the previous ones. Now, interestingly enough, the next several measurements by independent workers in other laboratories seem to cluster about that one. After the Second World War radar was used in the development of a novel technique for measuring the velocity of light which seemed to have certain advantages and which gave a value significantly higher than those of the previous series. This observation was followed by a rash of others, some made by the same techniques which had been used previously, but somehow agreeing more with the new value than the older one.

Now even in the measurement of light velocity all the observations are not given equal weight. Rather it is the tradition to reject certain data on the basis of atmospheric or instrumental vicissitudes, although the number of rejected observations is reported. It is my hunch that in this selection process there is an unconscious bias in the direction of conformity with preconceived notions and accepted values. This hunch

finds support in the opinion of an authority like Professor Bearden, who discussed this question in the *American Journal of Physics* (40). After considering and arguing against pure chance and systematic error, he suggests "that the experiments were not really independent but that there was a subconscious psychological factor which tended to make each experimenter look for errors in technique until he could check the then accepted value. It appears that (this assumption) is the most plausible." Mulligan and McDonald have also discussed this point.³

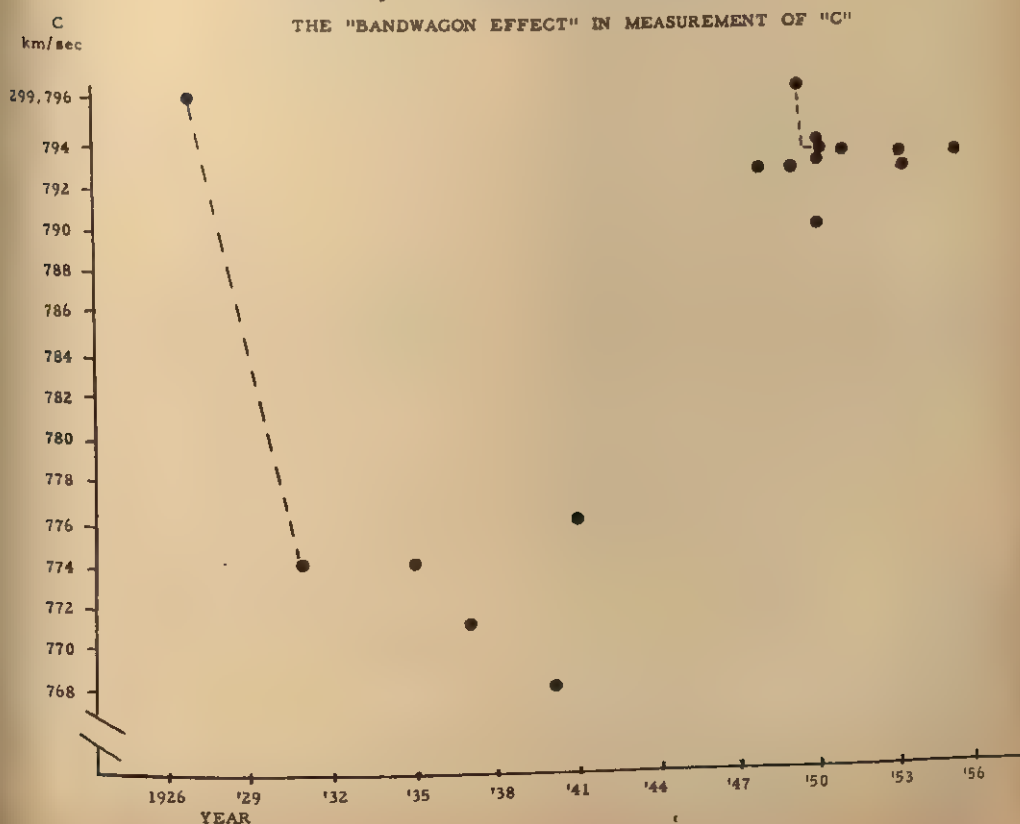
³ "It does seem clear from the history of physics that occasionally the result of a very high precision measurement of a physical constant by someone eminent in the field has intimidated other workers from publishing results in substantial disagreement with this value . . . As early as 1947 Aslakson found that his 'Shoran' distance measurements required a value of c higher by more than 15 km per sec than the then accepted value. He did not

If the importance of these subconscious psychological and social errors is recognized by physicists, should not psychiatrists be even more aware of them and attempt to avoid them, or at least recognize and compensate for them in their thinking and writing?

In other branches of medicine, the autopsy(42), the x-ray and the chemical

report his results at that time, however, because he thought there must be some as yet undetected error in his work or in the accepted value of the index of refraction at the frequency used which would account for the discrepancy. It was only in 1949, when evidence was mounting from other sources in favor of a higher value of c that Aslakson first published his original evaluation, $c=299,792.4$ km per sec. It seems at least possible that other experimenters in the years from 1934 to 1949 may have found higher values of speed by optical methods but refrained from publishing their results because of their disagreement with the determinations of (others) in which such great confidence was placed at that time"(41).

FIGURE 2
Measurement of the Velocity of Light as Reported in
the Physical Literature from 1926 to 1956



laboratory have served as checks to the reinforcing of clinical presumption of underlying processes by selective observational bias. Such relatively objective and dispassionate guidelines are lacking in psychiatry and it is that lack rather than ineptitude or indolence which has kept psychiatry a young science, comparable to medicine a generation ago.

The idiosyncratic aspects of human personality and behavior plus the lack of objective criteria for the evaluation of progress, have undoubtedly inhibited the motivation and de-emphasized the obligation to test the efficacy of various forms of psychotherapy. They have also formed the basis for a devaluation of the few studies which have attempted to do so. Recognizing that the efficacy of a therapeutic procedure is not a valid test of the theory upon which it is based, Frank has pointed out the need for empirical evaluation of the relative efficacies, by the criteria which we have, among different forms of therapy administered by various therapists to a wide variety of patients (43). We are asking too much if we seek and wait for the one study which will answer all of the questions at once. No surgeon can predict the outcome of a particular operation in an individual patient, nor can one be certain in advance of the effectiveness of each use of an antibiotic or ataractic drug. What we do have, on the basis of empirical studies, some of which are well controlled, is a knowledge of the betting odds, on the basis of which it has been possible to improve the surgical techniques which we have, develop and test new drugs, and more sharply define the conditions in which each therapy is most effective. Every therapist, be he surgeon, internist, or psychotherapist accepts a patient for treatment without knowing all of the individual factors which will determine the final outcome, but on the basis of hypotheses that he can help such patients. Those hypotheses can be tested.

Recognition of the problems and imaginative scientific design can, I am sure, find substitutes in psychiatry for the simpler objective criteria which are available to other disciplines. Much has already been accomplished, but it will take continued alertness to the common pitfalls of science and those

peculiar to psychiatry, a wealth of ingenuity and a vast expenditure of time and effort to meet the challenge effectively. It will also require patience and forbearance if we are to avoid the reactive swings which have marked psychiatric thinking in the past. For we must also realize that research and scientific methodology are developing to enrich psychiatry and not to impoverish it of its other qualities. No sophistication of scientific design can take the place of the imaginative and creative spirit, no amount of research output can substitute for a sensitivity to human problems and a willingness to utilize appropriately the knowledge which we have, at every stage of our progress, in service to the individual human being and his community.

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THE CHILD WHO REFUSES TO ATTEND SCHOOL¹

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This paper will discuss a syndrome that is appearing with increasing frequency(4) in psychiatric clinics for children. The principle presenting symptom is the reluctance and ultimate refusal of the child to attend school.

THE SYNDROME

The failure to attend school in such cases can be differentiated from truancy in 3 particulars: 1. Unlike the truant, the school-refusing child goes home and stays home or nearby. He does not go fishing or to the ballgame. 2. The absence of the truant tends to be intermittent and for short intervals of a day or so, whereas, the school-refusing child absents himself for days, weeks, or even months at a time. 3. The truant is absent without the knowledge of his parents. The essence of school-refusal is that while the parents are painfully aware of the absence of the child they are powerless to enforce his attendance.

In the beginning, the child may not directly refuse to attend school. More frequently somatic complaints such as abdominal pain or nausea, headaches or dizzy spells raise a question in the parents' minds about the advisability of sending the child to school. These physical complaints tend to recede quickly if the child is permitted to remain home but they are frequently aggravated if the child is taken to school. While these symptoms may have somatic roots in that they are sometimes vegetative concomitants of anxiety feelings, it is doubtful however if they should be accorded the dynamic status of conversion reaction.

If the parent attempts to force the child to attend school, the "refusal" aspect of the nonattendance becomes more evident. The child will often become anxious, make protestations of pain and fear. If the parent is insistent he may go on to angry accusations, even blows. Once the parent capitulates and allows the child to remain home,

relative peace is rapidly restored.

The core symptom, then, is a failure to attend school, with the knowledge of the parent but beyond his control.

DIAGNOSTIC CATEGORIES

In the literature this symptom has sometimes been described as a single entity and accorded the name "school phobia." Recent articles(3, 12, 16) show that the symptom appears in a variety of psychopathological configurations. There are 3 main categories so described. While the focus of this paper will be upon the acute or neurotic syndrome, for clarity, the other categories will be described briefly.

Acute School Refusal: The sudden appearance of reluctance and refusal to attend school constitutes the principle symptom. These children are usually pre-pubertal and most frequently from grades 4 down to, and including, kindergarten. This syndrome will be described in more detail later.

Characterological School Refusal: While reluctance and ultimate refusal is a prominent symptom in characterological cases, it does not occupy as central a position in the psychopathology. Social difficulties with peers, affective disturbances and acting out behavior of a mild or predelinquent kind are not infrequently part of the picture. Indeed, in the author's experience, an active peptic ulcer complicated one such case in a 14-year-old boy. School refusal may be accorded undue emphasis in the symptom complex because it is most frequently this difficulty that brings the child to the attention of agencies, psychiatrist, or authorities. This category of school refusal is more common in children of early adolescent years, and most authors feel that it represents a more severe personality disturbance in the child than does acute school refusal; parental psychopathology appears to be of greater magnitude in such cases. Here one is not describing acute school refusal cases that have been permitted to go on to chronic nonattendance. The deterior-

¹ Read at the N. Pacific Society of Neurol. and Psychiat. meeting, Apr. 8, 1961.

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ration of such children shows a rather different picture than that of the characterological school refusing child.

School Refusal as Incipient Psychosis: The least frequently seen category is that which heralds the onset of a psychotic illness in an adolescent child. In the author's experience, the refusal to attend school in these cases, has been explicable on the basis of the first appearance of psychotic manifestations in the classroom. Experiencing frightening hallucinations or delusions in that setting, the child avoids attending.

THE ACUTE SCHOOL REFUSAL SYNDROME

It is proposed to describe more fully the acute pattern of school refusal as a basis for discussion of the dynamics, treatment and prognosis of this particular condition. In addition to refusal to attend school, such children frequently show disturbances of affect, behavior and self concept. Affective disturbances are revealed in the history as well as in the presenting picture. Parents report that such children have often had many fears during early development, *i.e.*, fear of dogs, the dark, thunder, lightning, *etc.* Indeed some authors have felt⁽⁴⁾ that a proneness to anxious affect exists in these children.

Much has been made of the child's fear of school. It is the author's experience that there is question as to whether these children are actually afraid of school, *per se*. It may be that principals and teachers, apprehensive over the role of the school in initiating the child's difficulties may suggest to the child that he might be fearful of one or another aspect of his school experience; parents, seeking to extenuate the child's failure to measure up to social expectations may also suggest that he is afraid of school; therapists, seeking to confirm dynamic formulations may induce such children to produce the expected confession of fear of school. While children may report a fear of school and even focus upon a particular teacher, child or classroom, such frequently seems to be more of an afterthought, than a true phobic anxiety.

A more clearly observed anxiety centers around the child's need to be near his mother constantly. When these children are not attending school their concern over

separation from mother is so great that they often need to keep her within sight, if not touch. One mother reported her child followed her about the house constantly, even sitting with his back to the bathroom door when she used that facility.

The most constant anxiety fantasy reported by these children is of accident or injury occurring to their mothers while they are absent. It may be that the anxiety observed in the classroom is related to pervasive obsessional thoughts of injury or accident having occurred to the parent while the child is at school. Some children report such obsessional thoughts. The desire to remain at home may be motivated by their need to be assured of the well being of their parent. Their personality structure is such that they may also feel that their presence with the parent will confer a magical protectiveness.

One of the most striking observations is of the child's need and ability to manipulate and control his parent through mobilizing and exploiting her guilt feelings, self doubt and subservience. Tears and tantrums would seem to be more in the service of maintaining such control than representative of depressive affect or hypomanic behavior⁽¹⁾.

In some cases the extent to which the child controls the family is remarkable. Not only does the child decide when and whether he will attend school, but meal and bedtime as well as many other aspects of family living may be subject to his decision or, at least, veto. The social and personal life of his parents and siblings may be subject to his tyrannical control. These children are particularly sensitive to the doubts and uncertainties of their mother and exploit these feelings to retain their control. When parental compliance is not forthcoming, tears, tantrums and, in some cases, threats to kill themselves and the parent ensue.³ These children are filled with hostility. While this affect sometimes erupts in the threats described, it is more generally passively expressed. Manipulation and control of the family gains its impetus from this

³ Tyrannical over-control of the family by the child is sometimes seen in children who have no difficulty in attending school regularly. The reason for this is not clear.

hostility. The anxiety over accident or injury to the parent is probably a conversion of such feelings.

It should be mentioned that most of these children are bright, frequently good students, sometimes careful and almost obsessional workers. Outside of their homes, they are reported to be mannerly, polite, sometimes excessively conforming. They are alert to the feelings of others. They are extremely perceptive of the clues that enable them to detect the concerns and attitudes of others. While they tend to use this knowledge to further their manipulative ends, their possession of this skill is probably related to the protracted closeness of their early relationship with mother.

Almost all authors agree that a highly specific type of pathological relationship between the mother and the child is usually present. On rare occasions, it is the father who is involved in this particular relationship distortion. The mother is anxiously overinvolved with her child. She tends to overprotect and infantilize him, to have little recognition of his growing capacity for living. Her anxiety as to whether her child can live up to life's expectancies is communicated to the child. She is unable to offer him the limits and expectations that will lead to experiences of mastery and so develop in him a sense of competence and worth. His continued dependence, indeed regression, is thus encouraged.

The mother soon develops a sense of incompetence as a parent which frequently aggravates a basically impaired sense of her own worth. Anxious and hostile feelings develop and a deep ambivalence towards the child is common. While the mother's hostility may erupt on occasion into overt rejection and expressed hatred, it will soon be buried again in guilty overprotectiveness.

Authors disagree as to the reason these mothers become overinvolved with their children. Some see them as immature even infantile persons who have experienced serious difficulty in achieving a sense of independence and autonomy in the course of their own psychological maturation. Others point to the unrewarding quality of the marital life of these women. Their husbands certainly tend to absent themselves

from the situation, to be weakly incapable and to relate themselves superficially to their wives and children. It is postulated that the mother's desire to escape from this unrewarding life situation represents the abandonment of her child and so produces a reaction of guilty indulgence.

It seems likely that in certain cases the above factors are important, however, it may be that the overinvolvement of a mother and her child does not always reflect deeply rooted psychopathology in the mother. Many young mothers today are in the position where they must rear their children with little or no support from experienced relatives. This may well render them subject to increased stress over dealing with their child's growing needs. The popularization of negative psychiatric clichés may have contributed significantly to parental inhibition over controlling their child directly. Fearful of traumatizing her child and deprived of experienced advice it is possible that mother may slip into indulgent management. Where such factors are operant the capacity of the parent to respond to psychiatric assistance is understandably greater than in those cases where severe conflict over unresolved dependency needs have produced mother's overidentification with the child.

DYNAMICS OF THE SYNDROME

Several authors have suggested that the term "school phobia" is misleading (4, 5, 12). However, this formulation continues to appear in the literature. It is suggested that anxiety over separation from the mother is displaced onto the school and thus delimited, becoming a fear and phobic avoidance of school. Since these children do not always express a marked fear of school, it is questionable that such a displacement has taken place. Further, their separation anxiety continues unabated. The economic gain to the psyche of a phobia is that by delimiting the anxiety to a specific situation which can then be avoided, the individual gains a greater freedom of function. These children however continue to be bound tightly to their mothers and it seems doubtful that phobic delimitation of anxiety has really occurred. The dynamics of phobia

seem to be questionably applicable to this syndrome.

The use of the term "school phobia" has been dignified by time and were it not for certain psychological consequences of its use, it would be carping to quarrel with such usage. It seems probable that the hesitance of some therapists to insist upon early return of the child is based upon an understanding of the syndrome as a phobia. Feeling the child's nonattendance to be prompted by intense phobic anxiety, such therapists are fearful of precipitating panic attacks by insisting upon return. Similarly the attention of school persons tends to be focused upon the anxiety of the child. This leads them to look for fault in their teachers or program and to protect the child by concessions ranging from limited classroom expectation to home tutoring. In the latter case, the child is denied the opportunity to recover and in the former he is robbed of desperately needed experiences of mastery. Finally, the term phobia focuses upon the anxiety of the child and neglects that most striking aspect of this syndrome, the manipulative and controlling quality of the child's relatedness to his parents. The term "refusal" would seem to be more appropriately descriptive of the situation of the child's nonattendance.

The principle conflict for these children centers about their struggle to achieve "a sense of autonomy, to delimit their own egos, to find their own identity and sense of worth. To this end the child behaves as a tyrant, he operates from a self concept pervaded by infantile omnipotent fantasies. He rules his parent, who sustains these fantasies through protective indulgence. Her mounting resentment eventually erupts into expressions of anger or rejection. In turn the child reacts with hostility which, with magical power born of omnipotence has life threatening dimensions towards his parents. Acute anxiety over separation is precipitated. The child reacts with ingratiating conformity and tearful clinging and the parent is ready to make it up to the child for her recent explosion of hatred. Mutually supportive fusion results and further regression is encouraged. The child reasserts his tyrannical rule over the home and refuses to attend school.

It would seem that the stage is set for this type of relationship by a failure of the child to have his needs met in early stages of his growth. As the infant's growing capacity for self care emerges, his life experiences offer him opportunities to exercise his new capacities. He learns to feed himself, to dress himself, to tie his own shoe laces, to wait a little for his satisfactions. Some children seem to reach actively for such experiences of mastery and growth. Some babies reject their bottles. Some children will not allow their mothers to button their clothes. For some other children however, each new responsibility is greeted as though it were an unwelcome irritation. The parents of such children must be patient and determined if the child is to achieve this step in his growth.

It may be that such differences in children are a reflection of constitutionally determined approaches to experience; it may be that such differences are solely the result of the nature and quality of parental management offered the child. It may be that both factors are operant with varying significance in individual children.

In any case, experiences of mastery enable the child to develop a sense of himself as an autonomous individual. With each new expectancy encountered and mastered, the child achieves a growing sense of his personal worth. Gradually, he exchanges the omnipotent fantasies so essential to his security as an infant for a view of himself as a separate individual, albeit less than totally self determining, yet with capacity and worth.

Denied limits and expectancies to grow against children are infantilized. Their omnipotent fantasies persist; their personal autonomy is stunted in its development. When life requires them to leave the protection of home to attend school, they are forced to view themselves comparatively for the first time. Their fragile sense of worth may not sustain the comparison, and a tendency to regress to more infantile modes of behavior results.

TREATMENT

To be effective treatment must be instituted promptly and must include early return to regular school attendance. Follow

up studies have shown a clear relationship between the effectiveness of treatment and the promptness of its initiation(12, 16). These children cannot be allowed to languish on waiting lists; their condition should be regarded as an emergency.

The first phases of treatment are concerned with the child's early return to school. Some authors express concern over action preceding insight and are concerned that panic states not be precipitated. Most writers however feel that prompt and vigorous action to return the child to school is indicated. In order to achieve this goal it is necessary to deal directly with the concerns of the parents, the child and the involved school persons.

The parents should be informed that the child's problem is not school and that his interests are not served by his nonattendance. The difficulty they experience in knowing how to deal with the child's behavior is acknowledged and accepted as a product of their desire to help the child. It is pointed out, however, that their present measures are currently ineffective. A date a few days hence is set for the child's return. It is sometimes helpful to involve the father in the mechanics of conveying the child to school. The difficulties of the first few days can be dealt with more effectively if the parents are told that they may call the therapist in the mornings if difficulties develop. Plans for ongoing treatment involving mother and child are made. The parents' questions are answered and their anxieties handled with firm support.

The child is informed that the therapist realizes that he has a worrisome problem but also that this problem is not at school. It is pointed out to him that nonattendance has not solved his problem nor has it made him happy. Return to school is defined as his obligation and attendance as not a matter of his particular choice. He is informed of the plan to begin attending on the arranged date and also that he will be seeing the doctor regularly. He is told that the purpose of seeing the doctor is to discuss any concerns he might have about his return or other problems. From the childrens' demeanor it is frequently apparent that they are suspending judgment as to whether or

not this is the way events will actually proceed.

The principal is contacted and informed of the plan to return the child. His concern that the school may have done something to contribute to the child's fears is dealt with by a brief explanation of the state of affairs. The principal is discouraged from making any special concessions for the child's educational program and told that such would not be in the child's interests. He is encouraged to use the nurse's office rather than permit the child to go home should physical complaints develop.

Using such methods, it is the author's experience that acute school refusing children are usually attending regularly and without difficulty within 2 weeks. In a few cases, the child returns immediately without protest on the date assigned. It is as though the child recognizes the new determination of his parents and elects to return without protest. In the usual case however, the child struggles against returning with somatic complaints, tears and tantrums. Not infrequently the parents telephone for reassurance and instructions and the therapist can help them to convey the child to school by direct advice. For example, one girl refused to put on her skirt; her father was instructed to place the girl and her skirt in the back seat of the car and was assured that she would put it on when she arrived at school. She did. Many children leave school during recess or lunch period to go home. They should be returned the same day. Usually, progressively diminishing difficulties persist through the first 3 or 4 days of the first week and sometimes 1 or 2 days of the second week. Panic reactions do not occur nor do other phobias develop.

The experience of attending regularly represents a shift in the adjustment of the child. For example, one such child was returned with difficulties lasting for 2 weeks. He had been in school slightly over a week when he contracted a communicable disease and was excluded. It was of course feared that it would be necessary to repeat the full process, however, the child returned willingly after he was well.

Continuing treatment involves parent and child. With the mother a directly supportive

relationship is provided. She is given the opportunity to ventilate some of her feelings for her child, her marriage and her self doubts as a mother. She is encouraged to discuss the details of the child's home management. She is supported in setting limits around such matters as bed and mealtime if these are out of her control. She is encouraged to offer the child increasing expectations in specific areas. It is necessary to enquire further concerning such expectations for not infrequently the child may have bargained so effectively as to nullify the mother's control.

If the mother receives clearly enunciated and firmly reinforced recommendations from the therapist, she tends to begin dealing with the child with similar clarity and firmness. Mothers will frequently come to recognize that they have been oversensitive to the emotional reactions of the child, that in actuality the depth of feeling imputed to the child was somewhat greater than he was truly experiencing. Further they come to recognize that the child can cope with some distress, disappointment, sadness, or fear without being overwhelmed.

As the child and mother achieve some initial separation, their relatedness to one another tends to improve and generally continues to do so somewhat independent of events in therapy. The child is initially guarded and tries to control the therapist as he has done his parent. When he recognizes that he is unable to do this and that the therapist is behind the new self respect of his parents, he may attempt to undermine treatment by mobilizing the parents anxiety concerning it. Ultimately however these children give up their manipulative behavior and develop more meaningful relationships to the therapist.

Some authors have expressed concern that direct supportive involvement with the mother would tend to perpetuate her dependency upon the therapist. This does not seem to be the case. Rather, the setting of limits helps her to achieve a greater personal autonomy. If the therapist is alert to her increasing capacity to take over decision making and allows her to do so, her independent functioning is encouraged.

Termination of treatment tends to occur as a result of pressures from the parent.

When their relationship with the child has improved with the disappearance of tears, tantrums and tyranny and the child is attending school regularly, they see less need for treatment.

PROGNOSIS

The prognosis is related to the nature of the psychopathology in a given case and the real meaning of the therapeutic interference that has taken place.

Follow up studies in acute cases are encouraging in that the same or other adjustment difficulties are rarely found (12, 16). Symptom displacement does not seem to occur. This would tend to lend credence to the view that acute school refusal may represent more of a situational reaction than a structured neurotic illness. The relationship difficulties of the parent and child might more profitably be viewed then as an impasse or blind alley in the child's psychological maturation. Treatment restores the mother and child to a more normal parent-child interaction and normal emotional growth is once again possible for the child.

As long as the child remains out of school normal psychological maturation is impossible. He can only stand still or regress. In those children who have been out of school, for a year or more, severe regression tends to crystallize in an infantile personality structure, social alienation and even paranoid traits. For such children separation from their home and a period of residential treatment is often necessary. The price of failure to treat these children promptly is very high.

SUMMARY

School refusal would seem to be a symptom complex appearing in more than one psychological configuration. In its acute form, it is felt to arise out of difficulties that the child has experienced in achieving a sense of autonomy. This has been due primarily to fluctuant limit setting by over involved parents. Direct management of the situation to control the symptom is essential to restore the child to normal growth patterns. Since symptom displacement and recurrence are not common it is suggested that the symptom in its acute form is more

situational in character than indicative of a structured neurotic illness.

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INQUIRY INTO THE USE OF PSYCHOTHERAPY FOR HOSPITALIZED SCHIZOPHRENICS¹

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There is ample reference in the literature to the treatment of schizophrenic patients with the psychotherapeutic method, and, in clinical presentations and discussions, psychotherapy is frequently mentioned as indicated or highly desirable. Despite this, there is difficulty in ascertaining the status of this method in the treatment of schizophrenic patients, both as to the frequency of its use and the current consensus towards its effectiveness. Occasional authors have reported their individual or group experiences but statistics have not become available which would reflect the picture on a nationwide basis.

This inquiry which is herein reported pertains to a beginning attempt to define the status of the use of psychotherapy with schizophrenic patients by collecting data regarding one segment of the problem. In addition, it was presumed that the data might provide correlation between the extent of its use and other factors such as the number of professional personnel, the number of staff personnel with special or particular skills and their attitudes towards other therapeutic tools. To this end a plan was devised to study, from reports obtained from a representative list of hospitals, the use of psychotherapy with hospitalized schizophrenics. These hospitals were derived from listings provided by The Joint Information Service of the APA, The National Institute of Mental Health, The APA Mental Hospital Service and The Council of State Governments. All private, general hospitals in the United States which admitted 100 or more neuro-psychiatric patients per year were included.

Hopefully, the judgements of effectiveness to be collected from the various hospitals would be based upon results obtained by their therapists who had had specific

experience in the use of psychotherapy with hospitalized schizophrenic patients and in a setting where judgements regarding use of other methods would also be available. It could be anticipated that these judgements would not always be derived from well-organized evaluation studies of psychotherapy since few of these exist, but rather would include judgements based upon general impressions from experiences within their own hospitals.

A questionnaire was designed to secure the following specific information³: 1. Data concerning hospital census, number of schizophrenic patients, staffing patterns and the extent to which various psychotherapeutic methods were used; 2. An expression of opinion as to the effectiveness of psychotherapy based upon the experience of each hospital (in detailed percentages and figures when available; when not, in general terms); 3. A definition by each source of the criteria used for determining changes occurring with psychotherapy; 4. An expression of opinion as to the effectiveness of psychotherapy compared with other treatment methods; 5. The extent of inservice training in the various psychiatric disciplines; 6. Proportion of staff with special training; e.g., personal analysis, psychotherapy under supervision, etc.

DESCRIPTION OF SAMPLE

Eight hundred and twenty-four questionnaires (and a follow-up inquiry to some) were mailed to State, Veterans Administration, Private Psychiatric and Private General Hospitals during the Summer-Fall 1959. Ninety-four percent of the V. A. Hospitals and 73% of the State Hospitals responded. For the final sample, it was necessary to delete 270 hospitals who responded with insufficient data; many of the private and city hospitals that responded were unable to provide the information requested but since these hospitals account for but 4% of the total hospitalized schizophrenic census, the final sample (Table 1) appears to be

³ For the period of July 1, 1957 to July 1, 1958.

¹ The author wishes to acknowledge the assistance of Drs. Nyla Cole, William Conte, David Impastato, Henriette Klein, William Orr and Theodore Rothman.

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significant in describing the use of psychotherapy for hospitalized schizophrenic pa-

TABLE 1
Rate of Response by Type of Institution

TYPE OF HOSPITAL	NUMBER OF QUESTIONNAIRES		%
	SENT	RECEIVED	
V. A.	31	29	94
State	180	132	73
Private General	161	87	54
Private Psychiatric	158	54	36
County	24	7	29
TOTAL	554	309	56

tients. All but three states contributed data to the survey (Table 2). This nationwide response minimizes the possibility of regional bias influencing the final sample judgements.

From the pooled data, certain trends could be charted: 1. The proportion of hospitalized schizophrenics being treated with some form of psychotherapy; 2. Attitudes regarding effectiveness of this therapeutic tool; 3. Judgements regarding its

effectiveness as compared with other types of therapy; 4. Available psychiatric personnel (with and without special training) to administer psychotherapy; 5. Correlation between the extent of the use of psychotherapy and the extent of training of the staff; 6. The availability of psychotherapists other than physicians (ancillary personnel).

ESTIMATION OF EFFICACY

Most of the respondents made a definite commitment as to their opinion of the efficacy of psychotherapy in treating schizophrenics. In those instances where specific figures were provided, if half or more of the patients treated were said to be benefited, the respondent was considered to have a favorable opinion of its efficacy, and *vice versa*.

A wide variety of opinions were expressed. Within this range, 43% had a favorable opinion of psychotherapy in the treatment of schizophrenics; the remaining 57% decline making a value judgement or considered its efficacy unfavorable. Among those who had a favorable opinion, many made

TABLE 2
Response (By States)

STATE	NUMBER OF QUESTIONNAIRES		STATE	NUMBER OF QUESTIONNAIRES	
	SENT	RECEIVED		SENT	RECEIVED
Alabama	4	2	Montana	2	0
Arizona	1	1	Nebraska	4	2
Arkansas	4	2	Nevada	1	0
California	71	31	New Jersey	18	9
Canada	21	14	New Mexico	2	2
Colorado	9	2	New York	34	27
Connecticut	11	6	No. Carolina	10	5
Delaware	3	2	No. Dakota	2	1
D. C.	1	1	Ohio	27	16
Florida	12	5	Oklahoma	5	3
Georgia	6	3	Oregon	3	2
Hawaii	2	1	Pennsylvania	32	18
Idaho	1	1	Puerto Rico	2	2
Illinois	33	16	Rhode Island	1	1
Indiana	10	8	So. Carolina	2	2
Iowa	12	11	So. Dakota	2	1
Kansas	4	4	Tennessee	11	4
Kentucky	6	2	Texas	22	9
Louisiana	8	5	Utah	3	1
Maine	4	3	Vermont	3	3
Maryland	15	11	Virginia	6	4
Massachusetts	21	13	Washington	7	3
Michigan	21	11	W. Virginia	7	3
Minnesota	17	11	Wisconsin	35	15
Mississippi	5	2	Wyoming	1	1
Missouri	11	8			

TABLE 3
Compilation of Data

	TYPE OF FACILITY				TOTAL
	STATE	V. A.	PRIV. PSYCH.	PRIV. GEN.	
Total Patient Census	284,845	37,089	5,857	227,710*	555,501*
Total Schizophrenic Census	124,738	26,682	1,568	4,546	157,534
% of Total Census	44%	72%	27%	2%	28%
% Schiz. Receiving Psychotherapy	23%	43%	100%	97%	29%
Individual Psychotherapy	9%	15%	91%	66%	13%
Group Psychotherapy	12%	27%	34%	21%	15%
Hypnotherapy	0	0	0	2%	0
Psychoanalytic Therapy	0	0	10%	3%	0
Schiz. Pts. Per Physician	57	51	4+	3	43
% Physicians Certified**	36%	45%	40%	65%	47%
% Physicians with Sp. Training***	11%	6%	29%	16%	13%
Schiz. Pts. Per Psychologist	248	133	40	55	180
% Psychologists with Sp. Training***	54%	75%	49%	45%	54%
Av. Numb. Soc. Work. Per Hospital	8	9	1	1	6
% Soc. Work Giving Psychotherapy	25%	37%	31%	26%	28%
In-Service Training Programs :					
Aides	91%	100%	55%	67%	82%
Nurses	76%	96%	52%	70%	77%
Adjunctive Therapists	59%	93%	21%	21%	49%
Social Workers	65%	96%	10%	14%	50%
Psychologists	61%	100%	10%	19%	49%
Volunteers	68%	100%	21%	39%	59%
Pastoral Students	34%	21%	3%	23%	44%
Psychiatric Residence	63%	46%	31%	30%	49%

* Including Non-Psychiatric Patients.

** Or Board Eligible.

*** Training in Psychotherapy.

the reservation that their opinion was favorable only if the patient received some form of somatic therapy first or concurrently. Some respondents expressed favorable opinion of the usefulness of psychotherapy in the earlier phase of schizophrenic decompensation and considered it without value in the chronic, later phases. Others felt that psychotherapy had a contribution to make but was inadequate by itself. Others utilized psychotherapy in conjunction with other methods and were reluctant to make a value judgement of its singular use.

The majority of the V. A. and State Hospitals indicated that they did not view psychotherapeutic treatment of schizophrenia as effective. There was no reference to a lack of personnel to explain the meager degree to which it was used. The private, general hospitals responded more dogmatically, specifying that psychotherapy was not a satisfactory substitute for somatic therapy. The private, psychiatric hospitals (where 100% of the schizophrenics were reported as receiving some form of psycho-

therapy) had as many reservations about its efficacy for hospitalized schizophrenic patients as did the other hospitals.

CRITERIA FOR IMPROVEMENT

The majority of the reporting hospitals used essentially the same criteria for determining improvement, the most common being : 1. Separation of patient from the hospital ; 2. Evidence of increasing socialization ; 3. Psychiatric evaluation ; 4. Psychological examinations.

COMPARISON OF PSYCHOTHERAPY WITH OTHER TYPES OF THERAPY

With minor disagreement, the opinions or judgements expressed view psychotherapy as being just as, or more effective than, the common or more easily available therapies such as vocational, recreational, occupational or milieu. Opinion seems to be evenly divided as to its efficacy compared with electroconvulsive and insulin coma therapy. Only in the case of psychopharmacotherapy is there a clear cut preference, this latter

being considered a superior form of treatment (Table 4). The V. A. Hospitals differ

of patients receiving psychotherapy and the extent to which inservice training is pro-

TABLE 4
Psychotherapy Rated Against Other Modalities

Psychotherapy Just as or More Effective Than :

MODALITY	STATE	TYPE OF FACILITY			CONSENSUS
		V. A.	PRIV. PSYCH.	PRIV. GEN.	
Carbon Dioxide Therapy	89%	90%	100%	66%	85%
Vocational Therapy	84%	79%	100%	79%	84%
Recreational Therapy	82%	86%	93%	67%	81%
Occupational Therapy	79%	86%	93%	59%	77%
Psycho-Surgery	76%	67%	77%	62%	72%
Milieu Therapy	72%	80%	71%	62%	71%
Insulin Coma Therapy	50%	79%	56%	40%	53%
ECT	50%	76%	41%	37%	49%
Pharmaco-Therapy	36%	32%	47%	26%	34%

from the consensus in that they view psychotherapy as superior to ECT and insulin coma therapy. The private psychiatric hospitals view psychotherapy as being equally effective as psychopharmacotherapy and the private general hospitals show a preference for ECT and insulin coma therapy.

INSERVICE TRAINING

Inservice training (other than pastoral training and psychiatric residency) is encountered most frequently in the V. A. Hospital system. The two exceptions noted occur most frequently in the state hospital systems. There is considerably less inservice training in the private psychiatric and general hospitals.

First examination of the data suggests an inverse relationship between the percentage

moted. As seen in Table 5, however, the difference in staffing patterns and the greater caseloads of the State and V. A. Hospitals (as compared to the private facilities) seem to account for this discrepancy. Among trained personnel, the reported case loads of 92-169 schizophrenic patients per therapist, in addition to the other commitments, are far from conducive to the development of psychotherapy programs.

PERSONNEL RESOURCES

Staffing patterns appear to be related to the use (and also the acceptance of) psychotherapy. In those hospitals (private psychiatric and general) in which psychotherapy is used extensively, small case loads are noted. Conversely, in the V. A. and State Hospitals, there appear to be fewer trained

TABLE 5
Professional Resources for Psychotherapy

	STATE	TYPE OF FACILITY			TOTAL
		V. A.	PRIV. PSYCH.	PRIV. GEN.	
Number of Physicians	2,183	549	354	1,365	4,451
% Certified	36%	45%	40%	65%	46%
% With Special Training	11%	6%	29%	16%	13%
Number of Psychologists	503	213	39	83	838
% With Special Training	54%	75%	49%	45%	57%
Number of Social Workers	936	267	32	81	1,316
% With Special Training	25%	37%	31%	26%	28%
Total Resources*	3,622	1,029	425	1,529	6,605
% With Special Training	20%	28%	31%	18%	22%
(Ratio) Total Personnel : Schiz. Pts.	1:34	1:26	1:4	1:3	1:24
(Ratio) Trained Personnel : Schiz. Pts.	1:169	1:92	1:12	1:16	1:110

* Physicians, social workers and psychologists.

personnel to carry out psychotherapy programs.

SUMMARY AND CONCLUSIONS

Questionnaires were sent to hospital administrators who referred them to their clinical directors, chiefs of service or directors of professional services. The data thus obtained represent the judgements of psychiatrists with varying degrees of training, a variety of philosophies of treatment and a variety of types of hospital facilities.

The data which have been collected constitute current judgement values. Those respondents who could not draw on specific experiences within their own hospitals did not offer judgement values. The opinions expressed—though sometimes based on impressions from experience rather than on organized evaluative studies—are essentially from hospitals where therapists have experience with both psychotherapy with schizophrenics and the somatic therapies.

The data in this report are based upon a survey of more than 150,000 hospitalized schizophrenics in more than 300 psychiatric facilities of various types. The bulk of the schizophrenic patients in this sample (79%) are hospitalized in the various state institutions; the V. A. facilities account for an additional 17% and the remaining 4% are hospitalized in the private hospitals.

The percentage of the schizophrenic population receiving psychotherapy is lowest in the state hospitals and highest in the private hospitals. The extent to which psychotherapy is employed in a given type of facility does not necessarily indicate the attitude of the personnel of that facility regarding its efficacy. Closely correlated with the extent to which psychotherapy is employed is the size of the psychiatrist's case load. The number of ancillary personnel trained in the use of psychotherapy appears to be negligible.

Hypnotherapy and psychoanalytic therapy were found to be used in less than 1% of hospitalized schizophrenic patients. Of the few who receive these therapies, most of them are being treated in the private facilities.

The judgements obtained view psychotherapy as more or just as effective as the vocational, recreational, occupational and milieu therapies, and on a par with ECT and insulin coma therapy. Pharmacotherapy is viewed as the superior treatment. The majority of respondents favor (in emphatic terms) somatic therapy in the treatment of schizophrenia. The data suggests that psychotherapy is infrequently employed as the primary or sole treatment. As an adjunct to other methods it enjoys wider (though limited) popularity and acceptance.

This survey indicates that psychotherapy, in the treatment of hospitalized schizophrenics, is not used as extensively as other forms of therapy. The consensus suggests that it has little value as the sole method of treatment and that its merits may be only as an adjunct to the somatic therapies. Psychopharmacotherapy appears to be the treatment of choice for this group of patients, and this is reflected in the relatively small proportion of hospitalized schizophrenics receiving psychotherapy at any phase of their illness. An inference from the data may well be that the type of schizophrenic process found in the chronically hospitalized patients is not generally responsive in a major way to psychotherapy. Additional factors obviously are large caseloads and limited trained personnel to carry out psychotherapy. The small or private hospitals report a much more frequent use of psychotherapy.

The findings of this preliminary survey describe in a general way a nationwide picture of the use of psychotherapy in the treatment of hospitalized schizophrenics and the attitudes, whatever their derivatives, towards its usefulness. Studies of a more definitive nature will doubtlessly become increasingly available. Even more necessary will be studies of the types of patients treated with psychotherapy, an exploration of the nature of the psychotherapy employed, and a more refined analysis of the derivatives of attitudes regarding the efficacy of psychotherapy.

GROUP METHODS IN HOSPITAL ORGANIZATION AND PATIENT TREATMENT AS APPLIED IN THE PSYCHIATRIC TREATMENT OF ALCOHOLISM ¹

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This paper describes briefly the organization and the therapeutic plan in a community hospital for treatment of alcoholism, under direction from the psychiatric department of a teaching hospital.

Increasingly, as the concept of alcoholism as an illness becomes widely accepted (1), psychiatrists are implicated in measures to combat the disorder. When in a community a psychiatrist undertakes to organize treatment facilities, some of his recommendations will be unsupported by validated clinical knowledge. What predictably effective techniques are there for treating alcoholic patients? And if there are such techniques, what assurance can be offered that they will prove workable under the particular geographical and socio-cultural conditions in question, that patients will present themselves for treatment, and professional personnel be available to carry it out?

Alcoholism is not a disease entity. Precise clinical or aetiological definition of alcoholism is lacking; various social, psychological or physiological factors may be operative. In psychiatric respects, alcoholic patients fall into a number of nosological categories (personality disorder, psychoneurosis or psychosis) and, in the opinion of some authorities (2, 3), certain socially-habituated alcoholics may have relatively normal personality structure. Reports from different centers undertaking treatment of alcoholism are not comparable because different types of patient may be involved; furthermore, uniform follow-up procedures are seldom adopted.

A PILOT CLINIC TO ASSAY COMMUNITY REQUIREMENTS

To test the demand for treatment, and to

detect what type of alcoholic patient would present in Cape Town, an announcement of treatment facilities was posted outside a house on a main road, and those interested were informed of a weekly evening clinic.

This clinic was conducted as an open meeting, on modified group therapy principles; opportunity for individual contact with alcoholic patients occurred after each meeting, when the psychiatrist offered outpatient treatment through the psychiatric services of the general teaching hospital. The weekly meetings were attended by drinking alcoholics seeking treatment, by members of local branches of Alcoholics Anonymous helpful in starting the clinic and known to the psychiatrists by wives of alcoholics not willing to come for treatment, and by local committee members of the National Council on Alcoholism.

Numerous alcoholic patients attended the clinic only once, and few of those accepting treatment at the psychiatric outpatient department appeared to improve substantially. However, this outpatient open meeting (retained when the hospital was subsequently opened), in addition to providing supportive psychotherapy to sober alcoholics, demonstrated that without doubt, in Cape Town also, alcoholic patients would come for psychiatric treatment, but that special facilities had to be established. The Administrator of the Hospitals Department of the Cape Province undertook to equip and run a hospital for alcoholism, clinical direction and staffing for which would come from the department of neurology and psychiatry, Groote Schuur Hospital. The Park Road Hospital, a unit of the University of Cape Town Teaching Hospitals' Group, opened March 20, 1959, with accommodation for 30 inpatients in the pleasantly-furnished house with large grounds in a residential suburb.

PRINCIPLES IN TREATMENT

Clinical attitudes tentatively adopted

¹ Read at a seminar on Alcoholism at the New York State Psychiatric Institute, on Nov. 21, 1960.

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when the hospital opened have been applied for almost two years.

1. *Group treatment is more effective than individual.* Conventional doctor-patient psychotherapy has been relatively ineffective with alcoholic patients(4) and cannot form the basis of a community treatment approach. The patient (as is apparent from his communications in therapeutic groups) when already involved in psychiatric treatment continues to view the doctor as alien and removed, not capable of understanding "the alcoholic." It is a historical fact that it was a lay organization which counteracted prevailing psychiatric pessimism about alcoholism. Medical failure and misunderstanding was on two scores: (a) The psychotherapist does not have techniques for enforcing a demand that the patient stop drinking; such authoritative restrictions are contrary to the usual method of psychotherapy. The patient in individual psychotherapy tends to respond to stresses in his relations with the psychotherapist by drinking(4). In group psychotherapy, on the other hand, the patient's peers can enforce the requirement for abstinence, by means of group consensus. (b) The physician, failing to view alcoholism as a chronic and relapsing disorder, tended to "reject" the alcoholic who resumed drinking. In this way many patients who may respond to renewed treatment acquire hostile avoidance of doctors. Of the patients treated during the first year in our hospital, 15.6% required re-admission. It is unfortunate that, while the technical nature of individual psychotherapy is widely grasped, the term group psychotherapy gets applied(5) to some attenuated approaches by practitioners not professionally trained (orientation lectures, movies followed by discussion) which, as Agrin(6) has indicated, are more appropriately termed group nontherapy.

2. *Unless socialized, a temporarily abstinent patient will resume drinking.* The alcoholic patient from his teens has had pathological interactions with people in his environment, eased subjectively, but in reality complicated, by habitual use of alcohol. The drinking pattern of a seriously addicted alcoholic is rarely changed unless he gets himself involved in different (non-critical) personal relationships. He some-

times calls for much social casework in his recoupment from the past decades of occupational and interpersonal failure. A wide range of resources available in the community may need to be mobilized if the abstinent alcoholic is to resume normative social participation. Thus the alcoholic rarely can be treated successfully outside his own community. Applications for admission to Park Road Hospital from patients in distant towns have been accepted seldom. To meet these demands, local clinics are being set up in towns, to be conducted by general practitioners who can obtain training at Park Road Hospital, being subsidized financially during training. Patients on return from brief hospitalization in Park Road Hospital will be supervised in their rehabilitation in the community from such local clinics. The efficacy of such geographical splitting of treatment is being observed in the local clinic started in Port Elizabeth, and if successful will be extended to other towns.

3. *The alcoholic must be personally motivated for treatment.* This well known requirement implies that the psychiatrist must improve his techniques for impelling discouraged patients towards detecting their own latent capacities. In our experience, numerous patients acquire added encouragement and resolution upon finding themselves members of a community of like sufferers. Frequently patients about whom a doubtful prognosis was held when admitted demonstrated that the hospital circumstances can mobilize treatment participation. Self-esteem was immediately increased on admission by the pleasant appearance of rooms and grounds, the acceptance by fellow patients, and the technical approaches of the treatment staff.

4. *Hospitalization permits the initiation of treatment.* My clinical impression is that inpatient treatment holds a proportion of those alcohol addicts known as single attenders in all outpatient facilities. The preliminary nature of the inpatient treatment is emphasized as soon as the patient is admitted; the significant treatment is that which the patient will obtain when, as an outpatient, he is establishing himself in the community. Failure to provide intensive outpatient treatment facilities(6), and to stress

rehabilitation as the significant aspect of the therapeutic approach to alcoholism, is a major failure in a treatment program.

5. *Both physical disability and emotional disturbance require treatment.* Medical treatment offers two advantages over a lay approach: (a) In hospital the patient can be treated with drugs during the withdrawal phase, so that interruption of alcohol intake is more tolerable. In addition, physical disorders detected by detailed examination can be treated. (b) Psychothera-

TABLE 1.
Medical Abnormalities Detected in 180
Patients on Admission to Hospital

History of periods of amnesia ("Blackouts")	25.3%
Hepatomegaly	13.3%
History of epileptic seizures	12.6%
Peripheral neuritis	8%
Optic nerve dysfunction	2.6%
Limb incoordination	2%
Pancreatitis with cirrhosis of the liver	2 patients
Subdural haematoma	1 patient
Coronary thrombosis	1 patient
Diabetic precoma	1 patient

peutic procedures applied in hospital enable the patient to communicate stressful mental preoccupations which, once externalized, undergo reduction of tension-inducing tendency. In the morning group meetings the patient relates distressing past experiences or troubling private resentments, and then frequently ceases to be agitated by them. Matters the patient considers too confidential for group disclosure he may hint at during the full psychiatric examination on admission. During his inpatient stay he also has individual interviews with the consultant psychiatrist to whom he is assigned. The resident psychiatrist is available each day should any patient wish to see him, and any member of the nursing staff reports to him if she observes events she considers significant.

THE STAFF

Careful coordination is effected between the organizational administration (the sphere of a physician-superintendent from the parent teaching hospital) and the clinical administration of the hospital. Through informal encounters and frequent meetings the hierarchical ranking of the staff with

rigid vertical lines of command is counteracted. A basic task the staff sets itself is to facilitate a free flow of communication in the hospital and obviate its collection in pockets. Conflicts between staff members are viewed as obstacles to the team-integration without which patient needs are not adequately met(8). All staff members know at least the outline of the therapy plan for particular patients, so that ambiguity can be avoided. (On one occasion a porter, apparently considered too peripheral to be drawn into the informed circle, was overheard by a startled nurse communicating to a knot of patients his own treatment admonition: "And always remember, boys, only one drink!"). Free communication of hospital information is fostered by a weekly staff meeting of senior nurses, occupational therapist, social worker and psychiatrists, where individual patients are discussed and inter-staff relationships are given attention; policy decisions are made in as clear terms as possible.

The Medical Staff: The psychiatrists(7) meet in a closed meeting fortnightly (the psychiatric social worker also attending). Details are reported by each psychiatrist of the progress of the closed outpatient psychotherapeutic group he is conducting. Comments and additional information coming from his colleagues may prove useful.

Mr. A., in an outpatient group and adjusting well to sobriety, arranged for his alcoholic friend B. to be admitted to the hospital. (Mrs. A. was a member of the wives' group). B. told his psychiatrist that he was Mrs. A.'s lover, a fact her husband did not know. Pursuing the policy that information should circulate as freely as possible, the psychiatrist conducting the group to which Mr. A. belonged was given this knowledge. In time B. communicated to his psychiatrist that he and Mrs. A. had agreed she would tell her husband of the liaison. Having done so, she discussed the affair in the wives' group; Mr. A. ventilated his disappointment and anger in his own group, which required him to perceive that he must have been motivated to overlook what was happening under his nose. (Possible homosexual attachment to B. was not suggested to him either by his fellow-members or by the psychiatrist conducting the group.) This complex chain of disclosure, acceptance and, to some extent, open exposure of significant mutual deceptions

was accomplished without Mr. A. relapsing into drinking. Mrs. A. went through a pregnancy and A. continued sober. Mr. B. broke off contact with the hospital after his discharge.

This careful integration of such different strands of information about each patient and his interactions is achieved through precise and organized staff communication and is a major technical procedure. By meticulous attention to what is going on the staff can comprehend and minimize noxious social entanglements to which alcoholic patients are particularly prone. By their participation in the hospital activities staff members narrow the gulf between them and the patients. Writers sometimes describe such patient entanglements in their hospitals(6), the staff recognizing untherapeutic associations only after they have been established. Perhaps a therapeutic milieu may be said to exist to the extent that such entanglements between patients are entered into by staff members, who at the same time practice professional avoidance of any personal social involvement with patients. Detailed and alert awareness of subtle communications by patients, the essence of good staff coordination, is only useful if the patient is handled with professional responsibility, a condition which was not obtained in some of our notable treatment failures (see report of group meeting following).

The Nursing Staff who are exposed throughout the day to interactions with demanding and socially provocative patients may need much guidance and support, especially if psychiatrically untrained. The use of group methods to train nurses to recognize and utilize therapeutically the excessive emotional involvement engendered by dependent patients has been evaluated in our hospital by Wolff(8). As a didactic procedure the group method is useful; however, nurses with character neuroses are not effectively restrained from disruptive contributions to the patients' milieu experience.

The Psychiatric Social Worker does not duplicate the psychiatrists' function, as in some clinics for alcoholism(9); having her own specific functions, she does not concern herself primarily with the patient's psychiatric status. A careful definition of her role has proved of considerable value: she

deals with the patient's social adjustment, performing a social service function (although in possession of the psychiatric data of his case); but towards relatives she may exert a psychotherapeutic influence.

She interviews the near relative of every patient, thus obtaining an objective psychosocial account, draws the relative into active concern about the treatment process, and she may propose the spouse (if still in the picture) as a potential member of the wives' group. She contacts employers or potential employers, assists the patient with his social disabilities (income tax arrears, failed maintenance payments to divorced wife, etc.). She follows up patients in their outpatient phase, participates with the psychiatric staff in teaching medical students, social workers, clergymen; and she counsels relatives of patients who recommence drinking. She has the responsibility of conveying to the staff the essential social information.

The Occupational Therapist, in addition to enabling patients to be active with creative tasks while in hospital, supervises the patient committees organizing the weekly social club and the hospital shop, and reports back her observations to the total treatment staff.

THE PATIENT'S CONTRIBUTION TO TREATMENT

Central to treatment is the concept that, alcoholism generally responding poorly to an individual approach, group processes have to be initiated and maintained at various levels of hospital activity. Group interactions among patients lead to insights that may enable the patient to modify his patterns of behaviour, especially those contributing to his use of alcohol.

Patient control of aspects of the hospital organization is designed to lead the patient to perceive that he is capable of responsible behaviour, which is in fact expected of him. Doors are not locked, there is no bedtime hour, a newly admitted patient is shown the hospital by a fellow-patient, patients elected by their fellows run the hospital shop, etc. Rules are kept to a minimum, so that patient autonomy in the hospital's social climate can be fostered (with technical participation of the staff to modify the social interactions into a treatment process).

The staff-orientation and coordination, to-

gether with the patient autonomy, are remarked on by patients in terms conveying security. "I'll never want to leave," patients sometimes say in group meetings, or: "It's like a hotel." At the same time angry reproach is repeatedly expressed that not enough is being done, *i.e.*, no active treatments applied of which patients can be passive recipients and the ineffectiveness of which, presumably, patients can demonstrate as soon as they leave hospital. Instead, the patient grasps that it is his own resources which must be summoned to help him in his present strait. The most immediate therapeutic ingredient of the program appears to be the personal relating between the patients themselves. In group and informal discussion they learn what behaviour is appropriate in the hospital, what clinical facts are known about alcoholism, how Antabuse can be useful in helping to cover the next 48 hours. Inpatients throughout their hospitalization are in contact with outpatients, at various stages of rehabilitation, returning to their weekly group meetings or to the social club. During the 23.7 days which, on an average, the patient is in hospital he is acquainted with the way treatment can help him modify the psychological sector implicated in his drinking. Marked behaviour modifications do occur in the hospital; in fact, the staff knows fairly definitely after a few days which patients are not going to be affected by the influences the hospital milieu is devised to provide. These influences I shall attempt to define.

It may be a prerequisite for treating alcoholic patients that the environment be made non-conflictive, non-threatening and non-critical. Otherwise the patient will never lack for an excuse, in which he himself firmly believes, for drinking. However, when tensions between those undertaking his care are minimal, when he is not exhorted or reproached or criticized, the moment comes when he reflects, usually aloud so that he can be heard, "I wish I had a drink now." But his environment is now placid, not haphazardly eventful; the onus can be placed on him to detect why he should be tense, or agitated, or resentful, and need alcohol to sooth such mental discomfort. At this time many patients recognize for the first time that stresses are pre-

texts. With help usually forthcoming from fellow patients, they take the step of initial self-exploration: "These memories of past events, these inner thoughts *do* worry me. They may have played a part in my drinking. I may be able to change my attitudes so that these thoughts don't upset me so much." It is in this mode that the patients bring out in the morning group meetings the extraordinary, humiliating or appalling experiences they had never discussed before. For other participants in the group meeting such self-recognition, and acceptance of responsibility to change, is often an experience evoking reciprocal communications. Rivalries or frank hatreds that have arisen in the hospital between fellow patients are disclosed with strongly expressed affect; the hating individual is enabled to remain in proximity with the hated one, and to explore the strong feelings in both of them. The patient who is clearly recognized by the staff as getting benefit from the hospital is the patient who, through his participation in the group experience, realizes with the impact of insight that the responsibility is his for some aspects of his setbacks in living.

Alcoholics Anonymous brings many people to this realization, as is evident from the famous supplication, "God grant me . . . courage to change the things I can . . ." When psychiatric techniques are used with those alcoholics not responding to self-help in the lay organization, disengagement from external stresses, by providing a therapeutic atmosphere, may be an essential preliminary for arousing in the patient a preparedness to identify inner stresses, and enable him to comprehend that, although shadowy, these inner stresses can be progressively understood, and counteracted through authentic personal engagement with others who have the same problems to contend with.

If both the patient and the staff realize early how complex and subtle a process recovery is, neither will be so cast down by failure in a particular case as to consider further effort futile. The staff finds in the proportion of successful cases sufficient satisfaction to counteract disappointment when patients in whom much was invested are not benefited.

A FAILED CASE AT AN OUTPATIENT GROUP MEETING

Each outpatient group meets 1½ hours weekly, of course always with the same psychiatrist as conductor. The author conducted the meeting reported here, the 23rd of this group, on an evening its regular conductor could not attend. The 8 outpatient members attending were known by him.

The session was dominated by a man who had lapsed in his outpatient attendances after he had started drinking again. He had been drinking that evening. The contributions of this man will be described selectively, to convey how some alcoholics test and strain the treatment procedure. It will be seen that a staff-member got implicated in the acting-out of the patient's pathological dependency needs; he also involved socially a fellow-member, Mr. C.; he monopolized the treatment time that evening; he indicated he had become involved in social difficulties of criminal proportions which psychiatric intervention could not alleviate. Moreover, psychological treatment being mediated by verbal communication, this patient was handicapped by thought processes not uncommon in alcoholic patients (related to emotional immaturity), a self-evasiveness of the double-bluff type. The psychiatrist, for example, knows the patient is being untruthful, but the patient will continue his communications only provided the conversational deception is not challenged. If it is, an angry response is evoked, with the patient removing himself. With mild intoxication, as this patient illustrates, such "insincerity" is exaggerated.

That the lapsed member had been drinking was anxiety-provoking for the others in the group who stressed to another member how unwise it would be for him to discontinue his Antabuse pills, as he was then contemplating. This other member induced more tension by overenthusiastically proclaiming that he would never again take another drink. The lapsed member reminded his fellow members that at Christmas time, in his bid to resume social drinking, he had started to take beers "through Antabuse," while still attending the group meetings. They had been right to try to stop him. He had now been suspended from his job; however, he could get it back at any time. He was not living with his parents, but in the home of a nurse of the hospital, whom he would not name. The doctor pointed out it was contrary to group procedure to make secrets of matters which were of concern to

all members. Some members then said they had heard the lapsed member was living in a nurse's household, admitting they had not brought themselves to discuss this in the meetings although it might have been wiser to do so. The lapsed member then mentioned by name a nursing aide, not professionally trained.

The doctor made the interpretation that the lapsed member appeared to demand, over and above the treatment provided, that the hospital should provide him with a fulltime nurse to look after him permanently. Angrily the lapsed member denied this and said how sorry he was the present doctor was conducting the meeting, and explained tensely that his purpose in coming that night was to request the regular conductor to intercede for him at his job: he had been suspended and was going to be fired. The group members ignored in their remarks that he had at first said his job was secure in spite of his suspension; when the doctor pointed out his inconsistency, the lapsed member rose furiously to leave. The doctor said the lapsed member when angry appeared to remove himself from the scene rather than express in words what he was feeling. The lapsed member said, "Yes, I'm the hell in with you," and sat down smiling. He then accepted interpretations that he was viewing the hospital as a support against harsh employers. His fellow members supported him with descriptions of their occupational setbacks, one member describing with careful detail his annoyance over being fined £15 one Christmas day for drinking a pint of beer when he was a fireman. The doctor took these remarks as indication that the group was inclined to be comforting to the lapsed member; his response was to report that on his way to work each morning he stopped at his mother's house to get a cup of coffee. The doctor again pointed out the strength of the lapsed member's dependency needs: "You seem to need your mother and the nursing aide and your doctor to lean on at present." The lapsed member then said he was in serious trouble; he had expropriated money on his job, using it to buy drink. The nursing aide's husband drank with him.

The nursing aide's position was then taken up. After discussion it was pointed out she had broken a rule of the hospital, one of few, that patients inevitably suffered interference in their treatment when staff members engaged in social relationships with patients. The group became agitated, Mr. D. protesting that every step likely to save the lapsed member from the terrible consequences of his alcoholism was justified. A number of members expressed

how "motherly" they had found the nursing aide while they were hospitalized. But Mr. C. who in trying to contact the lapsed member had taken to visiting his parents, stressed that his parents would very much want to have him home with them. It wasn't as if he had no home. His parents' main wish, in fact, was that he should marry a nice girl so that they could make over their house and all their furniture to him.

The lapsed member burst forth that he hated his father. His father was the sort of man who, if he asked for a chisel and you brought him a hammer, would hit you over the head with it. He offered to leave the nursing aide's house. "She is sick tonight, that is why she has not come on duty." Other members explored how awkward it must have been for her to decide whether she would come to her work at a time he would be attending the hospital, knowing she had gone against hospital procedure in having him lodge secretly with her. The doctor emphasized this point, that psychotherapeutic interactions depend on frankness, not only on the part of patients but also from responsibly cooperating members of the staff, so that all could rely on a secure setting in which to pursue the task of self-understanding.

The lapsed member exclaimed that if frank disclosure was the thing, he could tell the group what had spoilt his life. When he was 5 years old he saw his father slap his mother's face. He "toddled" from the house into a field, vowing never to forgive his father. Since then he had hated his father. That was why he drank. He got himself drunk and then went to his parents' home expressly to show himself intoxicated to his father. It was satisfying to him to make his father angry and distressed. "Do you want to know why I am still single?" he demanded.

This discomfiting question was disregarded, the group instead discussing animatedly the scene of parental strife just described. Mr. D. said he disbelieved the mere witnessing of a smack could lead to alcoholism. The members detailed occasions when they themselves had struck their wives, especially when not sober, indeed, how their wives had thrown coffee cups, *etc.*, at them, but no grudges had been borne. The lapsed member was told his parents had forgotten that slap a long time ago. He was urged to forgive his father; to go further and, after confession, to beg his father's forgiveness for the hatred he had harbored. Mr. C. pointed out that while the drunkenness was intended to wound the lapsed member's father, his mother had told Mr. C. that each time her

son appeared drunk "you were sticking a knife into her heart."

This reference led the doctor to remind the group that the lapsed member had wanted to consider with them why he had remained single. The lapsed member said that when he was a little lad, at the time of the slap, he vowed to wait for his father to die, when he would care for his mother himself.

The group exclaimed with surprise over this wrongheadedness. But the lapsed member persisted: he would never marry, instead intending to devote himself to his mother. Mr. C. was emphatic that the mother desired her son married. The doctor interpreted that Mr. C., like the mother perhaps, might be concerned how the lapsed member met his sexual needs.

The lapsed member began to convey how virile he was, his verbal excesses causing anxiety in the group members. He asked the doctor, "Has your car got a big enough back seat?", offering to have the doctor meet the ladies he knew. He made the group smile participatively when, unabashed by their restraints, he leant forward to demonstrate to the doctor his tie, a red one with the earth, Mars, Venus, *etc.* on the public side but on the inside, when the tie was folded open, a pin-up girl. This assertion of sexual freedom was not interpreted as miscarried rebellion against an authority presumed to be condemnatory of sexuality; the entire group was now participating in the amused assertiveness, until Mr. D. explained to the lapsed member that precisely what was happening was what his parents might fear, his going with prostitutes. But they were in favour of his having a decent girl.

As the meeting closed the lapsed member said he would obtain Antabuse tablets on leaving and next day he would visit his parents, to tell his father of the hatred he had felt since childhood. However, he did not return to later meetings. He had come close to recognizing that a childhood hatred of his father was affecting his total behaviour; if he could modify this, his chances of being able to stop drinking for longer periods would improve, and even his mode of sexual activity might alter. In this case, the impetus to carry over the group benefits into social action did not take place. The point of treatment failure can be defined. Perhaps no further treatment occurred because his work problems became intolerably pressing, certainly his involvement with the nursing aide adversely complicated treatment. Not being sober may have blunted his grasp, as it facilitated his communication.

EXTENT OF SERVICES PROVIDED

In the first year, 180 patients were treated with brief hospitalization (average stay of 23.7 days) followed by outpatient small-group psychotherapy conducted by a psychiatrist. An additional 105 patients presenting during the year were not admitted, but alternative disposition or treatment arranged.

Total admissions during year	180
Re-admissions	28 (15.6%)
In direct contact	105 (58.3%)
In indirect contact	32 (17.8%)
Out of contact	38 (21.1%)
Deaths	5 (2.9%)

Direct contact means that the patient had continuously attended for treatment, or attended some other hospital activity (e.g., social club) so that he was seen personally and his current status checked. *Indirect contact* means that a relative or close associate in immediate touch with the patient provided a report on his status. It will be seen that contact was not kept with one-fifth of the patients admitted during the first year; many patients did not have addresses when admitted and were not employed. To maintain follow-up with this group would require considerable exertion by specially appointed staff.

Eighteen (10%) of the patients were women.

Four categories of treatment outcome were adopted in making assessment of progress: sober, improved (a judgment that the patient was drinking less, was now working regularly, had returned to his estranged spouse, etc.), unchanged or not known:

Sober	87 (48.3%)
Improved	26 (14.4%)
Unchanged	39 (21.7%)
Not known	23 (12.8%)
Deaths	5 (2.9%)

After a year, 62.7% of patients were known to have benefited from the treatment. Some had been sober for over a year when the follow-up was completed, some abstinent only for a few months. There were already 4 outpatient closed groups in progress, the first having met for 53 sessions when the review of the first year was made; in addition

the open group and the wives' group met weekly.

As well as the treatment service provided, contribution has been made to change in general attitudes towards alcoholism in the community. Seminars have been held for medical students, social science students, the clergy, personnel managers, probation officers and general medical practitioners. A close association with the local branches of Alcoholics Anonymous is maintained. The Advisory Committee of community leaders appointed by the Administrator of the Cape Province is an active link between the hospital and the community. Public organizations are addressed by members of the hospital staff, so that knowledge and experience can be spread to agencies and individuals in a position to be helpful to the alcoholic.

SUMMARY

1. A form of hospital treatment for alcoholism, providing short hospitalization followed by prolonged outpatient treatment is described.

2. A therapeutic hospital milieu results from techniques facilitating patient interaction; treatment intervention by the staff is also coordinated through group methods.

3. The patient effects identifications with fellow-patients, his re-socialization commencing with his recognition that inner stresses, which he can be helped to modify, have contributed to his drinking.

4. Small group techniques are an effective means of outpatient psychotherapy when the patient is beginning a sober working adjustment and forming new social relationships.

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THE USE OF STIMULATING DRUGS

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The pharmacologic approach to the treatment of the depressed patient has recently been very active. The increasing number of new preparations has been accompanied by enthusiastic comments: "simply dissolves symptoms of depression . . . with recovery or marked improvement reported to occur promptly in 70-85% of cases"(1); "ameliorates symptoms of depression . . . often capable of normalizing"(2); "anti-depressant without euphoriant effect"(3); and "alleviates the depressive state but does not act as a stimulant"(4).

To the older readers these statements must provoke nostalgia. It was in 1936 that hematoporphyrin seemed "to produce activation, in some cases mental stimulation and in others general improvement"(5). And in 1941 Metrazol "in nearly 73% brings about favorable change classifiable as recovery or as social remission"(6).

In searching for effective antidepressant drugs the most common source has been the cerebral stimulants. In utilizing these stimulants the inference drawn seems to have been that the emotionally depressed patient has a depressed nervous system; unfortunately this assumption still lacks confirmation.

The term stimulant is not currently popular when applied to the new antidepressants. However, if one accepts the definition of a cerebral stimulant as a substance that "exalts the functional activities of the brain"(7), such alter-designations as "psychic energizer," "thymoleptic," or "normalizer" seem less separate.

EFFECTS ON THE CENTRAL NERVOUS SYSTEM

Investigation for effective CNS stimulants has been a difficult one, with undesirable effects more common than desirable ones. This is evidenced by the less recent stimulants such as picrotoxin, metrazol, strychnine and camphor which in the unanesthetized human produce excitation only at the convulsive dose(8). They have been used

in the treatment of depression but were abandoned due to this complication; or conversely used because they did produce a convulsive episode.

Some other preparations capable of producing convulsions at higher than the therapeutic dose are cocaine and anticholinergics such as atropine(8, 9). Both have been prescribed to stimulate the depressed patient.

Seizures have been reported with imipramine (Tofranil) and the monoamine oxidase inhibitors, but fortunately are rather rare occurrences(10, 11). On the other hand, the recommended dosage of newer drugs may be increased in an effort to enhance their effectiveness; when this occurs, the convulsive threshold may be approached.

The usefulness of the stimulants has also been limited by their multiplicity of actions. This has been experienced by the laity when they take coffee, tea or cocoa in excess and become restless and have their sleep disturbed. Similarly the use of the amphetamine group has been limited clinically by early restlessness and tremor.

The newer antidepressants can produce insomnia, irritability and nervousness, but these side effects occur in less than 10% of patients(12-15). The fact that these side effects occur at all may be due to the structural similarity of these drugs to the earlier introduced stimulants.

For example methylphenidate (Ritalin) and pipradol (Meratran) contain the phenethylamine skeleton just as does the amphetamine group. And the monoamine oxidase inhibitors are hydrazine analogues of these sympathetic amines(16).

EFFECTS ON OTHER BODY SYSTEMS

Aside from the direct effects of stimulants on the nervous system, there are actions affecting other systems. These toxic or side effects frequently are listed at the end of therapeutic reports. This may be analogous to the small print on a legal document, important but unpleasant to consider. Actually this brief description of side effects is justi-

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fied in many drug reports since they may only be an annoyance to the doctor or the patient. This is true of the cardiac arrhythmias and hypo- and hypertensive effects with mild excesses of caffeine and amphetamine(8). Orally the mild cortical stimulants methylphenidate and pipradol seldom produce more than subjective discomfort in the cardiac patient if they are used with caution. Added caution should be exercised with intravenous methylphenidate(12, 17).

With the many new antidepressants made available to the clinician it behooves him to observe his patients carefully for signs of toxicity. It is dubious whether we yet know the range or intensity of side effects, since these can only be determined by prolonged observation. Certain of the monoamine oxidase inhibitors have shown severe degrees of toxicity. Iproniazid (Marsilid) a charter member of the energizers and beta-phenylisopropyl hydrazine (Catron), a more recent arrival are hepatotoxic compounds or produce visual complications(18, 19).

Other members of this group, phenelzine (Nardil), nialmide (Niamid) and isocarboxazid (Marplan) reportedly produce orthostatic hypotension, light-headedness and syncope in 10-20% of cases. Constipation, nausea, edema, hepatotoxicity and drug rash are much less frequently seen(11, 13, 14, 15, 20).

Imipramine and benactyzine have side effects that are atropine-like. This is expected with benactyzine which is an anticholinergic that in approximately 10% of cases produced mild complaints of dryness of the mouth, drowsiness or dizziness at presently recommended dosages(21). With dosages of 250 mg. daily nearly all patients receiving imipramine complained of dryness of the mouth and sweating(22). At lower dosages 10-20% note these. Less frequent effects are tremor of the extremities, dizziness, blurred vision, constipation and hypotension(23). Agranulocytosis and skin reactions have been noted rarely(10, 24, 25).

UNTOWARD PSYCHIATRIC EFFECTS

Since stimulants are not specific, they conceal rather than relieve; and in the end the depressed patient's state may be aggravated. Principally, because observations indicate that it is not possible to stimulate

the central nervous system for a long period without the heightened nervous activity being followed by depression, proportional in degree to the intensity and duration of the stimulation(8).

This leads to the problem of psychological habituation. Patients with a low tolerance for frustration may take more drug to avoid the "let-down" following the interval of stimulation.

An example of the subtleness of a drug's addictive potential was demonstrated in the later part of the 19th century when cocaine became well known as a stimulant and euphoriant. Its severe addictive qualities escaped the recognized acuity of physicians Freud and Hallstedt when it was first put into use. Personal disaster came near to these early proponents of this drug which seemed to selectively elevate mood. Freud was an active proponent and Hallstedt an addict, fortunately a temporary state for both(26, 27).

It is pertinent to remember that there are over 25 compounds related to amphetamine marketed for use as CNS stimulants, bronchiol dilators, vasoconstrictors and appetite depressors. Undesirable, as well as desirable, effects must be considered in the use of all these compounds. That habituation may result is shown in the following cases:

Case 1: This 31-year-old woman had been taking an amphetamine (Auban) for 4 years ("first to lose weight and then I couldn't stop"). She progressively increased the dosage and at the time of admission was taking 70 mg. of methamphetamine and 420 mg. of phenobarbital daily in this form. Approximately 4 months prior to admission she was observed to work in her home at an exhausting pace and at all hours of the day and night. Mild ideas of reference appeared which increased with the development of paranoid delusions, hallucinations, forgetfulness and agitation. She was hospitalized and these acute symptoms cleared in 3-4 days. It was noted after her first home visit that she was somewhat agitated, confused and exhibited slurred speech. She admitted consuming considerable quantities of the drug again.

Case 2: This 19-year-old woman had been taking phenmetrazine (Preludin) for 18 months prior to admission. The drug was initially used as an adjuvant to weight reduction. She gradu-

ally increased the dosage to 15-18 tablets daily. Some 5 months prior to admission this previously ambitious, well-controlled student was observed to become loud and abusive over trivial occurrences, failed at work and made a suicidal attempt. One month prior to admission she had explosive temper tantrums, was physically abusive to her mother, became very paranoid and was writing bizarre things. She then made a suicidal attempt by ingesting 100 one-half grain phenobarbital tablets. She was found, brought to the hospital and treated on the medical ward for 3 days for "acute barbiturate intoxication." When transferred to the psychiatric service, she was cooperative and composed. She had some feelings of guilt but the overt psychotic symptomatology mentioned above was not observed.

Since an abstinence syndrome has not been clearly ascertained with the amphetamines, the academic designation of addiction (habituation, tolerance and withdrawal) is a debatable point. But, it has been observed that individuals habituated to the amphetamine series are at least as resourceful in obtaining the drug as the chronic alcoholic and some addicts (28).

Finally, the antidepressants may produce clinical psychiatric symptoms. The ability of the amphetamine series to produce a clinical syndrome often indistinguishable from schizophrenia, in the acute phase, has been described previously (29, 30). The two cases of amphetamine habituation described in this paper are typical of these reports.

Hypomania may be seen with imipramine and the monoamine oxidase inhibitors; and in the former the hypomania has reportedly persisted after discontinuing the drug (31).

COMMENTS

It is evident that the new antidepressants are chemically related to those previously used. There are similarities in structure between atropine, amphetamine, acetylcholine, histamine and the newer stimulants.

By the manipulation of side-chains and other structural changes, the pharmacologist has presented the clinician with these new antidepressant drugs. Though modes of action are unclarified they have proved attractive because post drug "let-down," severe agitation and convulsions have not been prominent in the suggested therapeutic range. The need for stimulants with fewer

side effects is undeniable, but the therapeutic enthusiasm recently shown has yet to stand the test of time (32, 33).

Finally, the ease of treating the depressed patient with a medication possessing no great risks, but uncertain effectiveness, has inherent danger. It may lull the clinician into lessening his precautions against suicide and the application of more proven therapies, *i.e.*, electroconvulsive therapy and hospitalization. The result may be an actual increase in morbidity and mortality. Thus the greatest hazard is not so much the side effects as the lack of proven clinical effectiveness of these compounds.

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DEPRESSION IN THE PSYCHOSES OF MEMBERS OF RELIGIOUS COMMUNITIES OF WOMEN

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A survey of the incidence of hospitalized mental illness among members of religious communities of women in 1956(1) indicated that there had been a considerable increase since an earlier investigation in 1935(2). A comparison of the figures for 1935 and 1956 not only reveals a very significant ($P < .001$) increase over the 20-year period, but a comparison of these figures with the corresponding statistics for women in the general population who were hospitalized for mental illness shows that the rate of mental illness among sisters has increased at a significantly more rapid rate ($P < .02$) than among the latter population. It should be noted, however, that the rate is still considerably lower among religious.

There are a number of objections which can be made to the reliability of this kind of survey and to conclusions based upon it: 1. Statistics on the subject of mental illness are notoriously misleading, especially for comparative purposes; 2. The apparent increase of mental illness among religious is due to earlier and/or more frequent recognition of problems which have always existed in the same proportions; 3. There are more facilities available now, hence more religious are hospitalized. While it is true that "fads" in diagnosis, inconsistencies in nomenclature, and non-reporting hospitals do throw statistics on mental illness into serious question, there is no reason to accept the suggestion that these have affected one group differently from the other. Therefore, the present investigation was undertaken on the assumption that there has been a real increase in mental illness among sisters and that it is statistically significant.

The method used was determined in large part by the nature of the material available. A Catholic mental hospital which regularly treats a number of sister-patients allowed the use of the case files of 50 religious who had been or were currently hospitalized for

a variety of mental disorders. The cases were drawn according to diagnosis, in numbers proportionate to the distribution of diagnoses in the 1956 survey. The completed sample included: 25 schizophrenia of which 13 were paranoid; 8 manic-depressive of which 4 were depressive reactions; 5 involutional psychosis; 2 cerebral arteriosclerosis; and one each of senile psychosis and chronic alcoholism.² The analysis of these histories was almost completely unstructured, not so much by design as by their uneven quality and their relative completeness or incompleteness. The histories were searched for any appearance of regularities or patterns of relationships, in the hope that there might be isolable some uniformities in family background or work history or symptomatology which might constitute or reflect causative factors in the sisters' breakdowns.

The report of this investigation confirms and underlines the commonplace that case records are still not very helpful in the attempt to unravel the etiology of mental disorder. In the case at hand, one can presume that the informants were sometimes led to conceal certain data from psychiatrists or hospital personnel because they were ashamed of mental illness, or they feared to put their religious communities in a bad light, or they simply had not been geared to be aware of possibly relevant behavior

² Fortunately, the decision to select on the basis of diagnosis produced a sample which was well-matched with certain other characteristics reported in the 1956 study, chiefly that of the patients' occupation prior to hospitalization. Twenty-eight per cent of the sample, as compared with 27.7% of the survey population were engaged in domestic tasks. (At least 5 of these 14 domestics had begun as teachers or hospital personnel but were unable to keep up with professional demands.) When one considers that sisters in domestic service constitute no more than 4% of all sisters in the United States, the rate of mental illness among them is astonishing and provocative. Forty per cent of the sample (50% of the survey) were teachers; 16% (14%) were nurses or other professional hospital personnel; 10% (5%) were cloistered; 6% (5%) were clerks or other.

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in the patients' background. The case histories reported by these informants are consequently impoverished. This is especially unfortunate, because we have in religious communities a sufficiently homogeneous body, sharing a common system of values, formed by somewhat standardized processes, and relatively easy to control, and it should be possible to learn much of value about mental illness in general from a careful study of this group.

The preponderance in the 1956 survey of disorders in which depression commonly occurs led to the suspicion that self-accusatory depression might figure prominently in the disorders of a majority of mentally ill religious. It must be admitted that the case histories did not yield enough clear data to warrant formulating this as a hypothesis, but the following summary of tabulations, relationships, exclusions, and impressions are submitted as evidence leading to and in support of the proposition that psychotic sisters tend to be symptomatically like one another, especially with regard to manifestations of depressed states.

There was so little reported on childhood experiences in the histories that one would conclude that the patients had had no childhood, and certainly there was nothing of any theoretical significance in this area. There were, however, a number of conditions which appeared in these histories with notable frequency and which, as expected, crossed diagnostic lines quite indiscriminately. For instance, in 30 of the cases the informants volunteered information which indicated that the onset of the patients' illness was of considerable duration—averaging over 6 years. There are a number of considerations which should temper any inclination to generalize from such ambiguous data; nevertheless, in the context of some extraordinarily fragmentary histories, any regularity may deserve more rather than less attention than one would be inclined to attach to it.

If senile and arteriosclerotic cases are excluded, the average age at first hospitalization was 41. For schizophrenics, who form the largest portion of the sample, it was 38. Looked at in another way, this means that the sisters involved had spent, on the average, from 17 to 20 years in their communi-

ties before being hospitalized; and, if we can judge from the histories, the 5 or 6 years preceding hospitalization were increasingly stressful for the patients and their companions, and increasingly unproductive. The average hospitalization for the total sample was 4 years 4 months, although the high incidence of paranoid schizophrenics (whose average hospitalization was 6 years 8 months) creates a deceptively high average. In view of the fact that 35% of the sample had been previously hospitalized at least once, and another 25% more than once, the average period hospitalized during a lifetime for the sisters in this sample will be predictably very high.³

While these data might not in themselves seem to be specifically related to the proposition that the psychoses of religious tend generally to include manifestations of severe depression, they constitute a quantitative backdrop to the context of the religious life in which these patients live, and when viewed in this perspective they may assume new relevance. The following portion of the article combines some information from the 1956 survey and some material from the case histories with some insights based on personal experience of the religious life. The significance of the 4 points issuing from the combination and the conclusion based on them can be tested, presumably, only by further experiential observation.

1. Sixty-four per cent of the case records used in this study contained specific reference to at least one of the symptoms included—not altogether arbitrarily—under the term self-accusation, namely: scrupulosity, a sense of worthlessness, a sense of failure, the desire to be destroyed. An additional 12% were described without further elaboration as being "severely depressed" prior to and during hospitalization.

2. The rates of hospitalized sisters per 100,000 in each of the specified occupations in the 1956 survey were: domestic, 3042; cloistered, 645; teachers, 420; professional hospital personnel, 228. As has been pointed

³ Here again the sample is notably like the universe from which it was drawn. In 1956 the average age at first hospitalization was 44; the average length of hospitalization was nearly 5 years; 48.4% had been previously hospitalized for mental illness.

out, the occupational distribution in the present sample is almost identical with the survey distribution, and it can be assumed that these rates are more or less stable. It may be no more than an interesting coincidence that the rates of psychosis increase as we move from the most totally absorbing and "distracting" occupations to those which leave the greatest freedom to the mind.

3. Asceticism, the practice of systematic self-denial for the purpose of attaining a higher ideal, is an integral part of the religious life. In the interest of ascetical practice, exercises in deliberate and controlled self-examination and introspection are institutionalized in the religious life. If these exercises are undertaken without prudent direction and/or by unstable, immature persons, they can easily and insidiously develop into gross depression. The case histories strongly suggest that such depression becomes a stage in a circle of abnormal manifestations which may eventually include the delusions and hallucinations reported in 60% of these cases.⁴

4. A certain amount and kind of insecurity is inevitable in the structure of the religious life. Being uprooted overnight from everything to which they have become accustomed is for some a trauma which is never outlived. The trappings of the life remain for them always uncertain, unreal, painful, and this is all the more difficult, discouraging, and depressing because it is not supposed to be so. Unless or until a person has developed considerable psychological and moral strength and stability, some of the demands associated with practicing the vows of poverty, chastity, and obedience can constitute an over-rigorous

program. Because of the organic structure of the religious life, failure or inadequacy, even in morally neutral matters, is often interpreted to be a matter of moral guilt, and repeated failure or experience of inability to meet standards intensifies depression.

CONCLUSION

This report is not intended to suggest that psychotic religious, or religious in general, are more depressed than other occupational or social classes, but to outline some possible reasons, specific to their life, why those who are depressed become so. Great stress is laid in religious life on hard work, high productivity, and "success" in the strictly religious and spiritual aspects of conventual life as well as in the "active" or professional works which they undertake. (The traits of the "American character" are quite faithfully mirrored in American religious communities.) In addition to these cultural influences, certain immature or poorly instructed religious are plagued by the suspicion that every failure is a sin, and for this reason their mental disturbances themselves become a circularly reinforcing cause of depression. The early onset and lengthy course of their disabling disorders, and the high rate of recurrence, further intensify their depression.

Considering the carefully structured character of religious life, it would seem that more careful selection among those who apply for permission to undertake the life, joined with precise and accurate moral and psychological instruction of those admitted could do much to reduce appreciably the abnormally depressed states among religious.

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⁴ It would be illogical and mistaken to conclude here that the self-examination and introspection are faulty methods to be employed in pursuit of an ideal; there is a great body of evidence to the contrary. What is implied is that they must be exercised wisely and under wise direction.

MURDER AS A REACTION TO PARANOID DELUSIONS IN INVOLUTIONAL PSYCHOSIS AND ITS PREVENTION

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Murder of the spouse as a reaction to delusions of infidelity and/or delusions of persecution is an ever present danger in patients suffering from involutional psychosis, paranoid type. In order to illustrate the malignancy of this clinical picture, I would like to relate excerpts from case records of patients charged or indicted with Murder, first degree, and committed to Matteawan State Hospital for the Criminal Insane:

Case 1: This 43-year-old white male patient of pyknic habitus and average intelligence was never in conflict with the law until he was arrested for homicide. For several years he had been sexually impotent and suspicious of his wife's infidelity. He described progressive distrustfulness of her to the point where he would inspect her genitalia to see if she were sleeping with other men. Finally, he was so preoccupied with his delusional system of her unfaithfulness that he was unable to work, lost his job and his wife separated from him. While appealing to her to return to live again with him, he shot her because of her refusal.

Case 2: This 55-year-old white male patient strangled his wife with a chain. Patient had become sexually impotent for about a year preceding the crime, and had delusions about poisoning by his wife. For several months prior to the crime he expressed ideas of infidelity and blamed the loss of sexual interest on his wife's nagging. His psychosis was characterized by ideas of infidelity, ideas of persecution directed against his wife, ideas of poisoning, misinterpretation of real occurrences and somatic complaints. His homicide was a reaction to his paranoid ideas directed against his wife.

Case 3: This 59-year-old white male patient was always shy and retiring; he became depressed in December, 1959. This depression led to his retirement from the postal service; he sold his home on August 1, 1960 and moved to a new residence. He became increasingly more depressed and withdrawn. Following an argument with his wife he strangled her and then attempted to commit suicide by turning on the gas but was found by the police and arrested. In this case the diagnosis was involutional psychosis, melancholia.

Case 4: This 52-year-old white male patient had been previously hospitalized because of depression, jealousy and ideas of infidelity. On January 13, 1957 he stabbed his wife to death and then planted the knife into his abdomen in two places. Patient's psychosis was characterized by ideas of infidelity and ideas of persecution. His homicide was a reaction to his delusional system. He claims that his wife wanted to put him in a psychiatric hospital to get rid of him, while, at the same time, she was showing interest in younger men.

Case 5: This 69-year-old white male patient showed evidence of mental illness for the first time in 1937, at the age of 46. It was characterized by ideas of infidelity, ideas of reference, misinterpretation and somatic complaints. Patient separated from his wife and finally obtained a divorce in December 1954. He remarried within a short period of time, again developed ideas of infidelity, ideas of poisoning and mild ideas of persecution with evidence of illogical thinking. He continued to express many somatic complaints. He had ideas of infidelity which he based on very trivial happenings but he still seems convinced that they were proof of infidelities on the part of his wives. At the age of 63 he finally killed his second wife by strangling her with his bare hands. It was felt that while there had been recurrent periods of depression, the underlying mechanisms belied a deep-seated schizophrenic psychosis which again became acute in the involutional period to such an extent that the patient killed his wife as a reaction to his delusions of infidelity and persecution.

Case 6: This 62-year-old white male patient first began to show mental symptoms early in 1953, at the age of 55. His psychosis had been characterized by preoccupation, seclusiveness, restlessness, lability of the emotions, ideas of reference, irritability and depression. He was twice treated with ECT and showed marked improvement. When he was discharged from the hospital, he apparently was in a remission from his involutional psychosis but there were still residuals in his mental condition with depression and irritability. Soon again he voiced ideas of reference and delusions of persecution towards his wife. Finally, at the age of 58, during an argument with his wife, he killed her with a knife. The diagnosis of involutional psy-

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chosis, paranoid and depressive features had to be continued.

Case 7 : This 57-year-old white female patient has a history of longstanding abnormalities of personality traits and habits which developed into overt insanity about 8 years ago, about the time of her menopause. Her psychosis had been characterized by depression, agitation and delusions and culminated in the murder of her husband, because of her belief that he had cancer. She had delusions of persecution and ideas of reference.

Case 8 : This 45-year-old colored female patient had an apparently normal childhood and adulthood development. Patient had a hysterectomy in 1944. Over a period of a year from the beginning of her menopause, she gradually developed a psychosis characterized by hypochondriacal complaints, ideas of infidelity and paranoid ideas concerning her husband, culminating in the murder of her husband. She admitted that about a year before the murder, she thought that people were staring at her and she admitted auditory hallucinations, claiming that at the time of the murder she thought there were other people hiding in the house who were talking to her.

These are some of the more characteristic cases of homicide which occurred as a reaction to delusions of persecution and/or delusions of infidelity in patients suffering from an involutional psychosis. Many other cases were committed by Court with the charge or indictment of assault, after they had unsuccessfully tried to kill their marital partner as a reaction to their delusional complex of ideas. It is noteworthy that the majority of the male involutional patients committed for murder or attempted murder of their wives as a reaction to delusions of infidelity and/or persecution are of Latin cultural background with a high respect for

the inviolability of the marriage vows as far as the women are concerned. In comparison with the male patients, among 86 women committed for murder (with a total adult female population of 200), only 3 were diagnosed as involutional psychosis and none of them were of Latin cultural background. In all of our patients the homicidal act was preceded for many months or years by a slowly developing involutional psychosis with ideas of persecution and/or infidelity.

Recently much has been published about the prevention of suicide but nothing so far about prevention of homicide. We have to be on our guard if an involutional patient expresses paranoid ideas about his spouse. The forebodings which always exist should not be ignored. These patients should be hospitalized and kept under strict surveillance if there is a serious, well-founded fear of the marital partner threatened by the paranoid patient. Prevention is better than treatment.

CONCLUSION

Eight short case histories were presented of patients admitted to Matteawan State Hospital for the Criminal Insane charged or indicted with murder, first degree, occurring as a reaction to paranoid delusions of an involutional psychosis. In all of these cases, forebodings of the malignant nature of patient's mental illness were present. This would indicate that these patients harbored potential homicidal tendencies for a prolonged period of time. A patient in the involutional period with potential homicidal tendencies as a reaction to paranoid delusions, should be hospitalized as a preventive measure as early as possible, the same as is done with potential suicidal patients.

A QUANTITATIVE STUDY OF CHLORPROMAZINE AND ITS SULFOXIDES IN THE URINE OF PSYCHOTIC PATIENTS

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INTRODUCTION

After the introduction of chlorpromazine in psychiatric treatment in 1951(1) many clinical reports followed, attesting to its efficacy. These data are summarized in a number of recent reviews(2, 3, 4), but a series of issues remain unresolved. These are: (a) the difficulties in determining adequate dosage levels without any means other than clinical observation(5); (b) the duration of maintenance of the patient who has shown a favorable response to this type of treatment(6, 7, 8); (c) the factors which influence the variations in the rate of regression when such patients are taken off medication(9, 10); and (d) the introduction of more potent congeners(10) of chlorpromazine has re-emphasized the need for information relative to the metabolism of these compounds.

A review of the literature indicates that relatively little is known concerning chlorpromazine metabolism in man although there are a number of studies on the metabolism of the drug in animals(11, 12, 13, 14, 15, 16) in which different metabolic patterns have been demonstrated(14). Salzman and Brodie(16) found a negligible amount of unchanged chlorpromazine and about 5% of sulfoxide in the urine of 2 patients receiving 900 mg. of chlorpromazine administered orally. Berti and Cima(14) reported finding 20% of the administered dose in the urine of man following a single oral dose of 100 mg. of chlorpromazine, but the nature of the metabolites was not examined. They also reported finding over 90% of the chlorpromazine metabolites in the urine of man as sulfoxides; however, Posner(17) suggested that phenol formation represents a major pathway of metabolism of the drug. Nadeau and Sobolewski(18) carried out studies relative to the conjugated forms. They reported that following chemical or enzymatic hydrolysis 10 to 20% of the con-

jugated fractions was recovered in the urine of subjects receiving 75 to 300 mg. of chlorpromazine daily. Lin, *et al.*(19) demonstrated glucuronic acid on paper chromatograms after the enzymatic hydrolysis of the urine. Fishman and Goldenberg(20) reported detection of 6 sulfoxides plus other unidentified polar metabolites, and Haynes(21) found 5.5 to 9.0% of the ether extractable metabolites as bound chlorpromazine and free and bound chlorpromazine sulfoxide in the urine of 4 patients receiving daily dose of 200 mg. and 800 mg. chlorpromazine for 4 to 11 days.

As a result of this survey and the considerations indicated above an experimental study^{2, 3} was initiated: 1. To determine the total amount of free chlorpromazine and its sulfoxide in the urine of chronically ill, psychotic patients being maintained on chlorpromazine; 2. To determine the changes occurring in the levels of free chlorpromazine and its sulfoxide in the urine of patients when medication is discontinued. Are there differences between excretory patterns of those patients who regress quickly and of those patients who maintain their improvement for longer periods of time? 3. To determine when treatment with chlorpromazine is reinstituted what effect it has on the pattern of chlorpromazine metab-

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TABLE 1
Chronically Hospitalized Male Schizophrenic Patients

PATIENT	AGE	HOSPITALIZATION	BEHAVIORAL PATTERN IN REGRESSION	BEHAVIORAL PATTERN IN REMISSION	DRUG* FREE	MSRPP RECEIVING** TREATMENT
1	25	6 yrs.	Smiles in hostile manner. No truth to his statements; delusional, hallucinated. Pushes other patients. Needs seclusion for his own protection. Confused, resistive.	Helps with ward work; understands what is said; quiet and cooperative; occasional visits home on Sundays. Tends to be more withdrawn.	59	58
2	19	3 yrs.	Euphoric and hyperactive, alternating with depression, physical complaints, starts fights, nervous movements of fingers.	Has ground parole, friendly, goes home on weekends; appears much more at ease.	26	19
3	53	28 yrs.	Seems miserable, unhappy, apathetic, withdrawn from all activities, hallucinated, removes clothing, autistic behavior, irritable, restless.	Is tolerant of other patients; less delusional and irritated; relaxed and comfortable	30	32
4	37	9 yrs.	Confused and slow; withdrawn, hallucinated, preoccupied; becomes a feeding problem in response to a delusion of "something going on inside."	Less delusional, ground parole, will talk with other patients, helps with ward chores and is cooperative to ward routines.	27	27
5	41	16 yrs.	Hallucinated, suspicious, delusional and restless, autistic, dissociated, appears very uncomfortable and sleeps poorly.	Ground parole, relaxed; not so anxious; friendly with everyone—very little delusional content expressed; seems to sleep and eat well.	50	26
6	40	22 yrs.	Withdrawn, restless, seclusive and almost mute; answers are irrelevant; paranoid ideation is expressed, becomes aggressive; will elope.	Answers questions meaningfully; helps with ward work; cooperative to ward routines and has ground parole.	64	31
7	48	4 yrs.	Confused, mutters to himself, goes into a catatonic stupor, is agitated, refuses to drink or eat or take care of his personal hygiene, gives negative answers to questions.	Becomes cooperative to ward routines and is no management problem.	38	41

* Obtained usually within the last few days of this period
** Obtained in the last few weeks of treatment

Structured in this manner in order that the test design not be exposed to the rating psychologist.

olites excreted in the urine : (a) when compared to their previous pattern and (b) when compared to the degree of stability maintained without the drug.

METHOD

A group of 7 hospitalized, male schizophrenic patients who were being maintained on either chlorpromazine or one of the phenothiazine drugs and housed on the same ward was selected for this study (Table 1). Patients Nos. 1, 2, 3, and 4 were being maintained on chlorpromazine prior to the study. Patients Nos. 5, 6, and 7 had been on trifluoperazine. The group was limited to 7 since the resources available for the chemical studies were very modest and the studies were highly exploratory in character.

Prior to the study evaluations of the patients' clinical status were obtained during several interviews with the research psychiatrist. Data on their behavioral patterns were recorded from nursing notes and interviews with the ward personnel who had known the patients for some time. The patients were also rated by a psychologist working blind utilizing the Multidimensional Scale for Rating Psychiatric Patients (MSRPP) (22). This is a factor-analyzed

scale yielding scores on several dimensions of psychopathology, including a total morbidity score.

Then the patients' previous medication was discontinued. The drug free phase was allowed to proceed until the patient began to show signs of deterioration. This was usually characterized by increasing discomfort and accentuation of his symptomatology. At this point drug therapy with chlorpromazine was instituted in all cases (Table 2).

CLINICAL OBSERVATIONS

These were made according to the following plan : the patients were seen during the first year of the study on the average of once weekly ; the same nursing personnel remained assigned to the ward and were very familiar with the patients and the characteristic fluctuations of their behavior ; and the same psychologist carried out the ratings.

The decision at which point the patient's drug free period (Table 2) should be terminated resulted in a division into two samples : (a) Nos. 1 and 2 in whom the decision was relatively easy since they expressed themselves in increasing outbursts

TABLE 2
Average Daily Excretion of Chlorpromazine (CP) and Chlorpromazine Sulfoxides (CPO)

PT. NO.	DRUG FREE IN WKS.	DAILY DOSAGE IN MGs.	WKS. OF RX.	AVERAGE EXCRETION* CP AND CPO (IN MG.)		CP		CPO		REMARKS
					%		%		%	
1	3	300	1	20.68	6.89					
		400	2	27.90	6.98					
		600	6	45.85	7.64					a
2	3	300	1	15.42	5.14					a
		400	2	27.54	6.89					
		600	6	50.02	8.34					a
3	3	600	7	60.16	10.03					
4	7	300	1	10.14	3.38					
		600	13	22.78	3.80	0.25	0.09	9.89	3.30	b
		900	1	58.09	6.46	0.77	0.13	22.01	3.67	b
		1200	4	202.90	16.91	3.67	0.41	54.42	6.05	c
5 (d)	18	300	1	3.91	1.31	14.80	1.23	188.10	15.68	c
6 (d)	27	300	2	7.87	2.62	0.56	0.19	3.35	1.12	b
		600	1	38.97	6.50	0.97	0.32	6.90	2.30	b
		1200	4	109.90	9.17	2.45	0.41	36.52	6.09	c
7 (d)	16	300	9	61.63	20.54	14.20	1.20	95.70	7.97	c
						8.40	2.80	53.23	17.74	c

Notes : (a) Originally the combined quantity of CP and CPO was determined.

(b) Subsequently CP and CPO were determined separately according to the Salzman and Brodie method(16) as modified by these Investigators.

(c) The last technique utilized for CP and CPO was determined by quantitative paper chromatography.

(d) Patients Nos. 5, 6, and 7 had been on trifluoperazine prior to being placed on this study.

* Average excretion was obtained by taking the number of determinations during the period of the specific dosage totaling them and dividing by the days on the specific dosage.

of hyperactivity, irritability, conflicts with other patients, and caused increasing difficulty of the ward management (Table 1); (b) Nos. 3, 4, 5, 6, and 7, who were much more difficult to determine since their regressive patterns were not as dramatic, but were a slow drift toward increasing psychopathology (Table 1). In this latter group it took at least 2-3 weeks to make a decision. Once the impression had been obtained that the patient was displaying signs of increasing discomfort, *i.e.*, responding more markedly to delusional and hallucinatory experiences, neglect of food, increasing difficulty in conforming to ward routines, verbal expressions which seemed to indicate increasing discomfort with a marked increase in psychotic content, the drug free interval was terminated.

In this phase of our study, the MSRPP ratings (Table 1) tended to show a range of variability which indicated that its application to such a small sample was limited. Obviously a larger number of patients would have to be studied through a series of drug free and treatment phases.

Table 2 indicates that the drug free interval ranged from 3 to 27 weeks. Following this initial drug free phase, different dosage levels were used for varying periods in order to obtain some information as to the levels at which maximum improvement occurred as observed by clinical comparisons of the remission obtained and for the purpose of determining the variability of the metabolites being measured.

CHEMICAL METHODS

The available techniques for measuring the excretion of free chlorpromazine and its sulfoxides in the urine were utilized,

modified, and refined. In addition blood analyses(25) were also carried out from time to time to obtain the levels of chlorpromazine in relation to the dosage used. Comparative paper chromatographic study was carried out on each patient's urine. Studies were initiated to determine the amount and types of chlorpromazine glucuronides(24) present in the urine. These studies will be reported later since this report is concerned only with the excretion of free chlorpromazine and its sulfoxides.

Twenty-four urines were difficult to obtain because of the patient's mental state and various procedures had to be developed for securing specimens at fixed intervals. For a period of time urine specimens from the 7 patients were collected every 2 hours during a 24-hour period on the first day of the week and for the rest of the week at 3-hour intervals during daily 12-hour periods from 10:30 a.m. to 10:30 p.m. (Table 3). The specific gravity of the specimen was recorded and the specimen stored in a refrigerator until analysis could be carried out. At this time 1 ml. each of the sample of each specimen was subjected to the FPN test(23) and spectrophotometric analysis for free chlorpromazine and chlorpromazine sulfoxides (Figure 1).

Later a procedure was utilized in which the 24-hour urine output was estimated by the creatinine content of the day's urine specimen. The standard creatinine excretion rate for each patient was determined in the following manner: 24-hour specimens were obtained by collecting urine every 2 hours for 3 consecutive 24-hour periods for each patient. The creatinine output per day was determined as the mean value for these 3 specimens. The maximum deviation from

TABLE 3
Average Daily Urinary Excretion of CP and CPO in Milligrams and Percentages of the Administered Dose of CP During a 12-Hour Period (Method of Analysis As_2O_3)

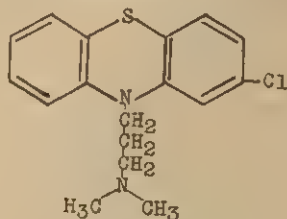
TIME	10:30 A.M.		1:30 P.M.		4:30 P.M.		7:30 P.M.		10:30 P.M.		TOTAL	
	mg.	%	mg.	%	mg.	%	mg.	%	mg.	%	mg.	%
Pt. No. 1												
150 mg. t.i.d.*	1.84	0.41	2.44	0.51	2.51	0.56	2.31	0.51	1.96	0.44	11.06	2.46
200 mg. t.i.d.**	2.14	0.36	2.49	0.42	2.82	0.47	2.54	0.42	2.28	0.38	12.27	2.05
Pt. No. 2												
200 mg. q.i.d.***	2.19	0.28	2.46	0.31	2.99	0.37	2.84	0.36	2.56	0.32	13.04	1.64

*—22 days.

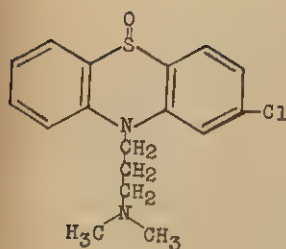
**—17 days.

***—16 days.

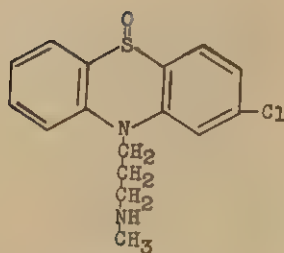
FIGURE 1
Structures of Chlorpromazine and its Sulfoxides



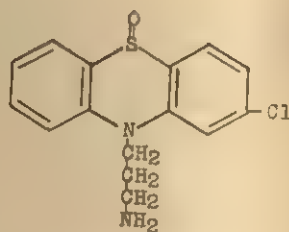
Chlorpromazine



Chlorpromazine
sulfoxide



Nor1-chlorpromazine
sulfoxide



Nor2-chlorpromazine
sulfoxide

the mean for any patient was 10%. This figure was utilized for estimating the total urinary output. This in turn was utilized for calculating the excretion of free chlorpromazine and its sulfoxides for each day. The control run of 24-hour urine output and creatinine determination was repeated at different seasons of the year to account for any seasonal fluctuation of urine output. The creatinine levels were determined in an "autoanalyzer." The average deviation from the mean value ranged from 2.46 to 6.67%.

In the analysis of the urine for chlorpromazine sulfoxide (CP and CPO respectively) a series of preliminary steps had to be taken: the development of a quantitative method for chlorpromazine and chlorpromazine sulfoxide in urine, and the determination and identification of CP and CPO in the urine of patients receiving chlorpromazine.

Method for estimation of total CP and CPO in urine. Various quantities of CP in normal urine were prepared and samples of 1 ml. of the mixture were adjusted to pH 12 and extracted with 12 ml. C_6H_6 . After being centrifuged, the C_6H_6 layer was separated.

To 10 ml. of the C_6H_6 extract, 3 ml. of As_2O_5 (saturated in concentrated HCl) reagent (27) was added. The purple color which developed was read within 10 minutes in a Beckman DU spectrophotometer at 575 $m\mu$. The color density followed Beer's law. The color produced by the As_2O_5 reagent fades slowly on standing at room temperature, but there is less than 2% change in 10 minutes.

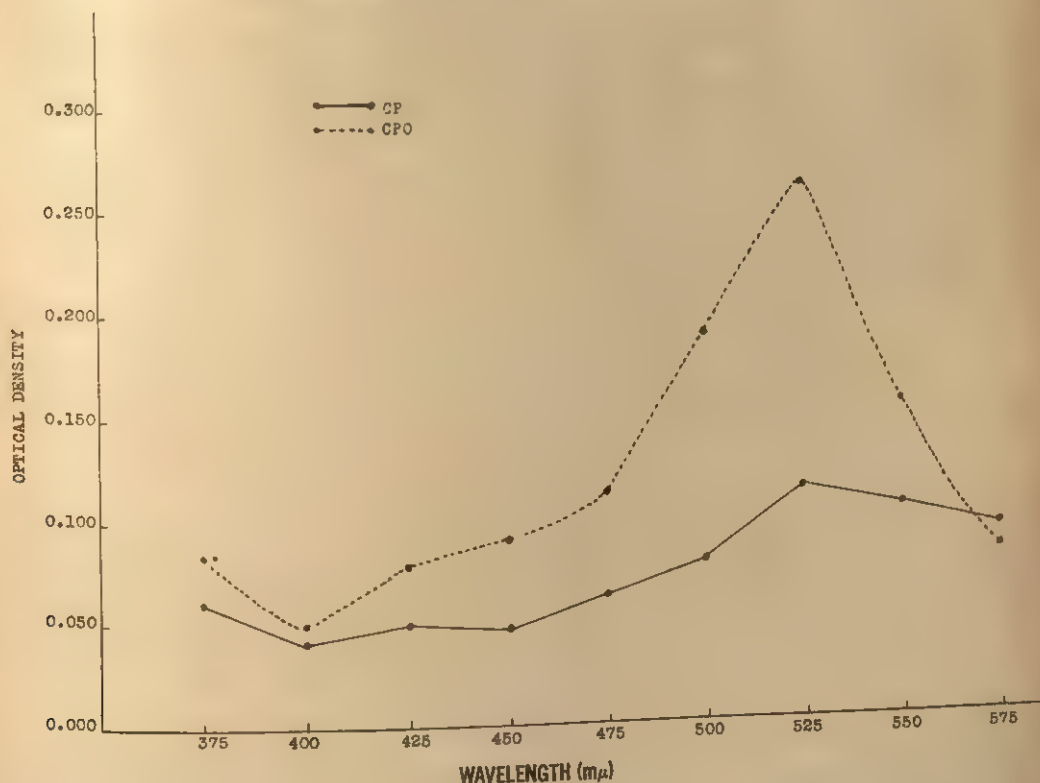
Differential method (modified method of Salzman and Brodie(16)). It was found that this method could be refined by carrying it out at pH 12 and utilizing CCl_4 for extracting CP and CPO. When C_6H_6 is used as an extracting solvent, turbidity often developed after shaking the C_6H_6 extract with 50% H_2SO_4 . Another advantage utilizing CCl_4 was that it yielded an extraction of CP and CPO of approximately 96%. Standard curves were made using mixtures of various quantities of CP and CPO in normal urine. A sample of 3 ml. of the mixture was adjusted to pH 12. The mixture was extracted with 12 ml. CCl_4 . After being centrifuged, the urine layer was removed. Ten ml. of the CCl_4 layer were placed in a test tube and

extracted with 2 ml. 0.2M sodium acetate buffer pH 5.6(16) and centrifuged. To 1.5 ml. of the buffer extract (contains CPO) 1.5 ml. of concentrated H_2SO_4 was added with cooling. The pink color which developed was read in a Beckman DU spectrophotometer at 525 $m\mu$. To 8 ml. of the CCl_4 layer (containing free CP) 3 ml. of 50% H_2SO_4 was added, shaken and centrifuged. The resulting light pink color in the acid layer was read as above. The optical density vs. concentrations was plotted on a graph paper. The colors followed Beer's law. The absorption curves of CP and CPO obtained from patients' urines are shown in Figure 2.

the second solvent system, n-butanol-acetic acid-water (4:1:1).

The CCl_4 layer described above contained unchanged chlorpromazine only (R_f , 0.96). Four spots (S_1 — S_4) were found on two-dimensional paper chromatograms of the acetate buffer extract. From the R_f value and mixed chromatograms with authentic specimens, 3 spots were tentatively identified to be chlorpromazine sulfoxide (S_2 , R_{f2} , 0.86), nor₁-chlorpromazine sulfoxide (S_3 , R_{f2} , 0.80) and nor₂-chlorpromazine sulfoxide (S_4 , R_{f2} , 0.75) (Figure 1). The S_1 was very faint and its nature has not yet been identified. All these 4 spots failed to

FIGURE 2
Absorption Curves of CP and CPO in Patients' Urine



Paper Chromatography. It was found that a more sensitive and specific method for the determination of individual metabolites could be performed using paper chromatography. Two-dimensional ascending paper chromatograms were developed on Whatman 3MM paper with the first solvent system, ethanol-n-butanol-water (2:5:5) and

produce color with $FeCl_3$ solution. The R_f values of these 4 compounds did not change after being treated with bacterial β -glucuronidase in a neutral medium at 37° C for 24 hours, and the chromatogram of the hydrolysate did not produce color with ammoniacal $AgNO_3$ reagent. The proportion of S_4 was found to be larger than S_3 and S_2

on the chromatograms. This technique was developed into a quantitative one-dimensional method for the analysis of urinary CP and CPO. Paper chromatograms of 0.3 ml. specimens of mixtures of various quantities of CP and CPO in normal urine were developed with the solvent system ethanol-n-butanol-water (2:5:5) by ascending technique. The chromatograms were dried and sprayed with 50% H_2SO_4 to develop color. Approximately one inch squares including the spots of CP and CPO were cut out, extracted with 3.5 ml. of 50% H_2SO_4 and filtered. The acid extracts thus obtained were read in Bausch and Lomb "spectronic 20" at 525 $m\mu$. The details of the quantitative paper chromatographic analysis of the urinary chlorpromazine metabolites will be reported later (26).

The sensitivity of the techniques utilized for identifying CP and CPO by using the As_2O_5 reagent, the modified method of Salzman and Brodie and the quantitative paper chromatography (Table 3, a, b, c) was found to be approximately 3.0/ml., 1.3/ml. and 1.0/ml. respectively. The results of the FPN test (23) agreed fairly well with that of the quantitative determinations during the period of continuous medication.

RESULTS

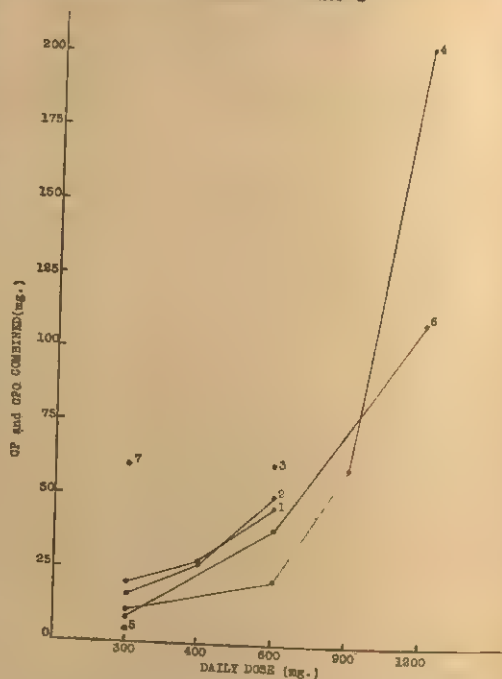
Table 1 reveals that the patterns of behavior of these 7 patients in their states of regression and remission varied. The patients Nos. 1, 2, 3, and 6 displayed some of the characteristic behavior considered target symptomatology for the phenothiazine tranquilizers, namely, hyperactivity, hyperirritability, aggressiveness and hostility. However, patients Nos. 4, 5, and 7, although they did not display the characteristic target symptomatology, also responded with some improvement to drug therapy. This is also indicated by the MSRPP ratings with only patients Nos. 5 and 6 showing changes which appear significant by inspection.

The drug free interval ranged from 3 to 27 weeks. The constancy of this interval for each patient is being investigated at the present time by exposing the patients to repeated courses of drug therapy followed by drug free intervals, in conjunction with continuing metabolic studies to be reported later.

Table 2 indicates the excretion of chlorpromazine and its sulfoxides at different dosage levels and the relationship of these in the individual patient. It will be noted that 3 different techniques were utilized in making these determinations. In sequence these were: the use of the As_2O_5 reagent, the modified method of Salzman and Brodie, and quantitative paper chromatography. These developments increased the sensitivity to a point where the presence of 1 gamma of the free CP or CPO per ml. of urine could be measured with a maximum error of 15%. It was also reassuring to find that all 3 methods tended to yield approximately the same type of information as indicated in Figure 3.

FIGURE 3

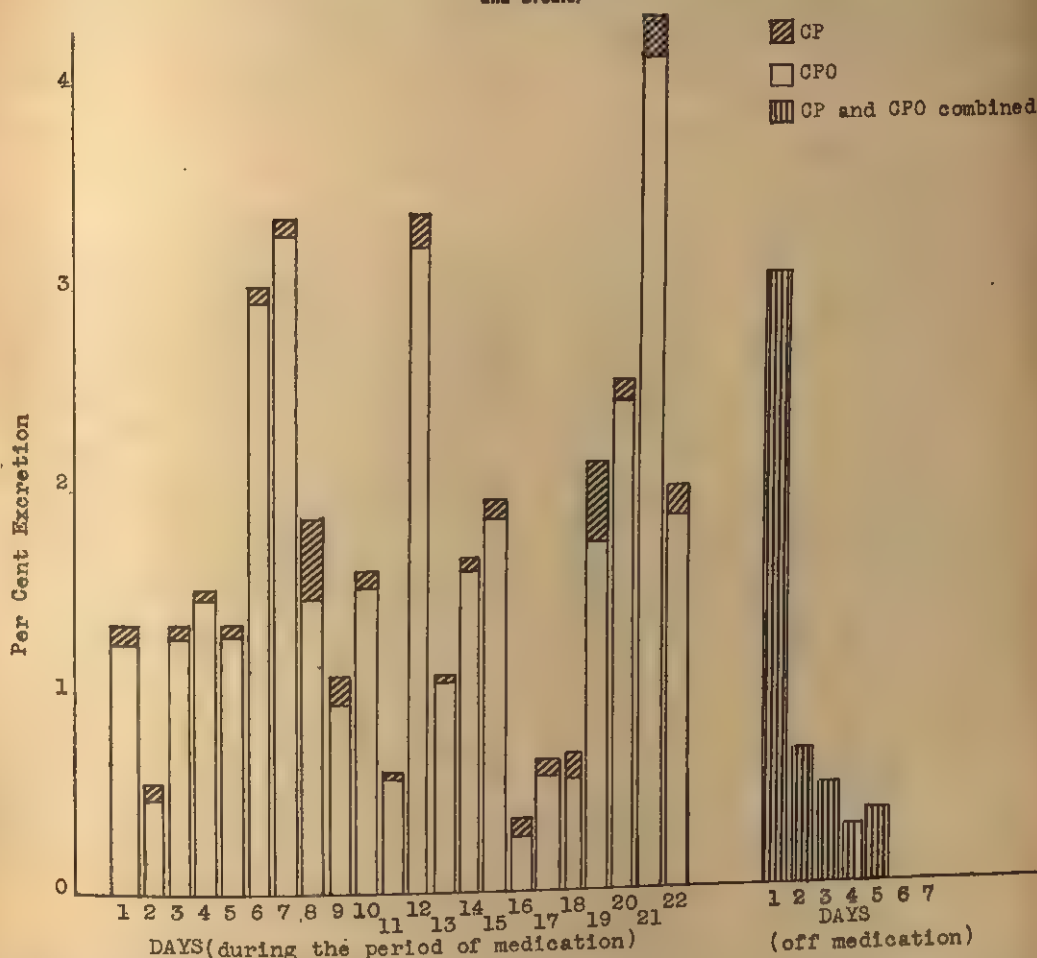
Average Daily Excretion of Chlorpromazine (CP) and Chlorpromazine Sulfoxide (CPO). Numbers Identify the Patients in Table 3



The single daily urine specimen obtained at the period of nearly maximum excretion contained an amount of chlorpromazine ranging from 0.25 to 14.80 mg. The CPO ranged from 3.35 to 188.10 mg. at the dosage levels employed in this study, which range from 300 to 1200 mg. daily. The ratio of CP and CPO was found to vary each day (Figure 4); however, the average ratio of

FIGURE 4

Daily Excretion of CP and CPO, and the Duration of Excretion After the Discontinuation of Oral Medication of 300 mg. t.i.d. in One Patient (No. 1) (Specimens Were Analyzed by the Modified Method of Salzman and Brodie)



these 2 metabolites was found to be approximately 1 to 16.

It would thus appear that in approximately 3,600 urine specimens tested from the 7 patients under continuous medication, the excretion of CP was very low, usually less than 1% of the administered dose which is in agreement with other reports(14, 16). The rate of excretion of CPO was found to be between 1 to 18% of the administered dose. It would also appear that the excretion of CP and CPO is not proportional to the dosage.

The urines of patients Nos. 1 and 2 were collected at fixed intervals during the day to determine the period of maximum excretion (Table 3). It will be noted that the highest total excretion of chlorpromazine

was found in the third specimen (4:30 p.m.) collected a half hour after the third dose.

As will be reported in detail later, it was found that the major portion of the metabolites being excreted was in the form of glucuronides(24) which disagrees with the results of Berti and Cima(14) who reported that 90% of the metabolites consisted of sulf-oxides in man.

No attempt is made to present the data on the excretion of the metabolites following the termination of drug therapy since this is still under study and is being repeated through a series of drug free phases. In a preliminary study, as indicated in Figure 4, the urinary excretion of CP and CPO continued for an average of 4 to 5 days after the

discontinuation of the medication while the other metabolites could be detected for 7 to 8 days. Much longer duration of excretion of CP (7 days), CPO (3 weeks) and the glucuronides (2 months) was observed in one patient in quantitative paper chromatography (26).

DISCUSSION

The first goal of this study had been the determination of the total amount of free chlorpromazine and its sulfoxides in the urine of chronically ill, psychotic patients being maintained on chlorpromazine. The results have indicated that this is a relatively minor pathway for the excretion of the chlorpromazine metabolites. The hydroxy derivatives and the glucuronides remain to be accounted for. From data already available to us, glucuronide formation (24) represents a relatively major pathway of chlorpromazine metabolism (24).

The question which naturally follows is: Are the metabolites in any way therapeutically effective in themselves? Data now available indicate that the sulfoxides have little effect pharmacologically (16) and there is reason to suspect that the glucuronides are even less effective.

The significance of the persistence of excretion of free chlorpromazine and its sulfoxides in the urine of patients when medication is discontinued and whether differences in this excretory pattern have any correlation with the duration of the clinical remission is under study. From the very preliminary information now available no definite trend or direction can be noted. The pattern of chlorpromazine metabolites excreted in the urine is being studied during repeated phases of on and off medication.

Whether these patients will behave consistently during the drug-free periods is also under study particularly in relation to personality structure and environmental happenings. Despite these considerations the variables relating to the metabolic process must be clearly defined before these other issues can be dealt with more definitively. The difficulties in correlating psychometric studies such as the MSRPP with clinical changes and the determination of end points emphasize the fact that there are no objective criteria for psychiatric alterations ex-

cept of the most marked type. Whether end points can be determined more effectively and at earlier periods and whether a study of the metabolites may provide further clues for the management of dosage will require long term studies with a group of carefully observed and sufficiently cooperative patients. A start has now been made in this direction.

SUMMARY

A group of 7 chronically ill, male, schizophrenic patients living on the same ward over a period of at least a year were studied. Spectrophotometric measurements of approximately 3,600 urine specimens were performed in order to determine the excretion pattern of free chlorpromazine and the 3 chlorpromazine sulfoxides which were identified on paper chromatograms.

The average excretion of free chlorpromazine and its sulfoxides combined during the period of continuous medication with chlorpromazine at dosage of 100 mg. to 400 mg. t.i.d. ranged from 1.31 to 20.54% of the administered dose. Of this, free chlorpromazine was usually found to be less than 1%, while the sulfoxides ranged from 1 to 18% of the administered dose. The average ratio of free chlorpromazine to its sulfoxides was found to be approximately 1 to 16. After the medication was stopped, free chlorpromazine and its sulfoxides disappeared from the urine within 5 days.

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A FURTHER STUDY OF SOME FEATURES OF THE INTERVIEW WITH THE INTERACTION CHRONOGRAPH

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JAMES McCLURE, M.D., AND JERRY BEGUELIN, A.B.^{1, 2}

The search for adequate methods of objectively assessing changes in behavior is an old problem among psychological investigators. The use of the interview as an instrument of assessment has been lauded because of its obvious flexibility and uniqueness. It has also been severely criticized because of its frequent unreliability. The corollary difficulty of finding a suitably precise instrument to record clinical interviews has also posed a challenge for researchers in the field. The development, by Chapple, of the interaction chronograph(1) and his introduction of the standardized interview(2) suggested a way for some answers to these problems. The basis of Chapple's interaction method is an analysis of the time variable during the interview. After considerable work in this field, Chapple arrived at his conclusion that time was an important variable for describing human relations. He suggested that: "... if we want to predict how people will act, the way to do it is to watch how they do act and not to infer their behavior from what they say without any means of observational check." He further emphasized that personality can be assessed without recourse to intra-psychic and other psychodynamic formulations, and that this assessment involves merely the process of observing the time relations in the interaction patterns of individuals. He indicated that this method, because of its objectivity, can lead to a science of personality. This view is consistent with MacKinnon's conclusion that the most promising approach to personality assessment will come from a "field theory" which gives sufficient weight both to "organismic" factors (the individual's behavior) and the "situational" or "field"

(which involves the other interactees) variable(5). It is significant to note that Sarason (and others) have attempted to view the Rorschach Test in a similar manner and have emphasized the examiner-subject relationship and the effects of this on the subject's productions(11).

There have been a series of reports dealing with the interaction chronograph. A history of the development of various early forms of this instrument will be found in the paper by Chapple(1). Essentially the interaction chronograph, which records certain temporal aspects of verbal and gestural interactions, is nothing more than a very elaborate stop watch. The device allows the observer to record, in time units with a high degree of precision, the behavioral interaction (exclusive of content of the verbalizations) of two individuals. The variables, definitions of which are given in Table 1,

TABLE 1
Definitions of the Interaction Variables

1. *Pt.'s Units*: The number of times the patient acted.
2. *Pt.'s Action+*: The average duration of the patient's actions.
3. *Pt.'s Silence+*: The average duration of the patient's silences.
4. *Pt.'s Tempo+*: The average duration of each action plus its following inaction as a single measure.
5. *Pt.'s Activity+*: The average duration of each action minus its following inaction, as a single measure.
6. *Pt.'s Adjustment+*: The durations of the patient's interruptions minus the durations of his failures to respond, divided by Pt.'s Units.
7. *Interviewer's Adjustment+*: The durations of the interviewer's interruptions minus the durations of his failures to respond, divided by Pt.'s Units.
8. *Pt.'s Initiative*: The percent of times, out of the available number of opportunities (usually 12) in Period 2, in which the patient acted again (within a 15-sec. limit) following his own last action.
9. *Pt.'s Dominance*: The number of times

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(out of 12) in Period 4 that the patient "talked down" the interviewer minus the number of times the interviewer "talked down" the patient, divided by the number of Pt.'s Units in the Period.

10. *Pt.'s Synchronization*: The number of times the patient either interrupted or failed to respond to the interviewer, divided by the number of Pt.'s Units.

11. *Interviewer's Units*: The number of times the interviewer acted.

12. *Pt.'s Quickness*⁺: The average length of time in Period 2 that the patient waited before taking the initiative following his own last action.

13. *No. of Interruptions*: The number of times one interectee interrupted the other during the total interview (or a period thereof).

14. *Length of Interview*: The duration of the interview in min.

⁺ Values for these variables are recorded in hundredths of a min. To convert to sec. multiply the given value by 0.6.

are objectively recorded by an observer who activates a series of electrically controlled counters which are connected to two keys, one for the interviewer, the other for the subject. Each key is depressed by the observer whenever the designated individual is talking, nodding, gesturing, or in other ways communicating (interacting) with the second person. Values for these variables can be abstracted from the printed record of the total interview with little difficulty. Some of these variables may seem unusually arbitrary, since they represent algebraic sums of two variables rather than individual measures of each of these variables. Chapple, in developing his interaction theory of personality, considered these derived variables more useful than the first-order variables from which they were obtained. In

addition to containing individual counters for each variable, the interaction chronograph has a "signal" counter which, when pressed by the observer after a pre-arranged signal from the interviewer, functions as a marker to record the start of different periods of the interview.

In his early study of interaction patterns during interviews, Chapple placed little restriction upon the interviewer other than that he should use a non-directive interview of the type described by Rogers(10). He soon discovered, however, that every interviewer was different not only in the way he behaved but in the results that he obtained from the same subject. Evidence for this very important point is provided in several reliability studies done by Chapple (2), and by Goldman-Eisler working independently in England(3).

They found that the use of the interaction chronograph for the objective assessment of patient personality patterns is made more difficult by the differences in "interaction patterns" (or "personalities") of different interviewers. These studies have shown that the differences in inter- and intra- interviewer interaction patterns have a subtle but marked effect on the interviewee's interaction patterns when these are carefully and objectively recorded. These experimental results thus have helped to define some of the uncontrolled variance which in the past has made the interview, including the interviewer's behavior, unreliable.

The need for some control or standardization of the interviewer's behavior if the clinical interview is to be used as a research tool is obvious. Accordingly Chapple suggested some rules to guide the interviewer's

TABLE 2
Characteristics of the Standardized Interview

PERIOD	TYPE OF INTERVIEWING	DURATION OF PERIOD	
		FIXED DURATION	VARIABLE DURATION
I	Free	10 Min.	12 failures to respond, or 15 min. whichever is shorter
II	Stress (silence)		
III	Free	5 Min.	12 interruptions, or 15 min., whichever is shorter
IV	Stress (interruption)		
V	Free	5 Min.	
Total		20 Min. plus	a maximum of 30 more min.

behavior(2). In addition, by prescribing that the interviewer behave in a number of different specified ways as the interview proceeds, it was possible to sample a larger portion of the interviewee's repertoire of responses. The standardized interview is divided into 5 periods. The characteristics of the standardized interview are shown in Table 2 and the "rules" governing the interviewer's behavior are given in Table 3.

TABLE 3
Standardized Interviewer's Behavior :
Rules for Interviewer

Periods 1 to 5 (all periods)

a. Interviewer introduces each period by a 5-sec. utterance (following his signal to the observer).

b. All interviewing must be non-directive. No direct questioning, no probing or depth interviewing. Interviewer can reflect, ask for clarification, ask for more information, introduce a new topic area, etc. In general, interviewer's comments should be non-challenging and open-ended and related to the patient's past comments or to some new, general topic.

c. All interactions must be verbal only, or verbal and gestural at the same time; i.e., interviewer cannot use head nods and other gestures alone. This rule simplifies the observer's task.

d. All of interviewer's utterances must be of approximately 5 sec. duration.

e. After patient finishes a comment or other interaction, interviewer must respond in less than 1 sec., except as otherwise noted in Periods 2 and 4.

f. Each time patient interrupts interviewer, the latter must continue to talk for 2 more sec. This rule insures more explicit definition of a patient's ascendance-submission pattern than would be possible if interviewer "submitted" immediately.

g. After interviewer has been silent for 15 sec. (and patient has not taken initiative) interviewer makes another 5-sec. comment.

Periods 1, 3, and 5

a. Interviewer must never interrupt patient.

b. If after interviewer makes a comment patient does not respond, interviewer must wait 15 sec. and then speak again for 5 sec.

Period 2 only

a. Interviewer must "fail to respond" to last interaction of patient a total of 12 times (or period 2 should last for 15 min., whichever is shorter.)

Period 4 only

a. Each time patient acts, interviewer must

interrupt patient for 5 sec. for a total of 12 times.

b. Interviewer's interruption should begin about 3 sec. after patient has begun his interaction.

c. After having interrupted patient, if the patient continues through the interruption (does not submit), interviewer will not interrupt again until patient has finished his utterance, i.e., interviewer will interrupt patient only once during each utterance of the latter if patient does not "yield."

d. The period is ended after 12 interruptions or 15 min. of attempting to obtain these.

A number of reliability studies have been published dealing with several aspects of the standardized interview.

OBSERVER RELIABILITY

A study reported by Phillips, *et al.*(9) utilized one highly experienced observer and another observer with only minimal experience. They independently and simultaneously observed the same 17 interviews. From their results it is clear that the observation and recording patterns during the standardized interview are highly reliable. The findings in this study served to indicate that the observer's task is largely a mechanical one once he has read, understood, and practiced the published rules.

SCORER RELIABILITY

The interaction chronograph yields cumulative scores on the several variables, and thus scoring, which involves primarily simple arithmetic skills, is a reasonably objective procedure. Saslow, Matarazzo and Guze(14) reported the scores of 2 scorers who followed Chapple's manual of instructions. They scored independently the interaction chronograph records of 10 standardized interviews selected at random. The results indicated perfect agreement between the 2 scorers on 96% of the 600 individual final scores involved. The magnitudes of the errors involved in the remaining 4% were very minimal and they were of the order of 1 unit in whole number scores and .06 in those variables measured in hundredths of a minute. Thus it would appear that scorer reliability presents no problem in these observations.

INTERVIEWER RELIABILITY

Because of the nature of the standardized interview itself, interviewer and interviewee performance are mutually dependent and thus the question of the reliability of the interviewer's standardized performance (the independent variable) is confounded with that of the interviewee's performance (the dependent variable). Thus the patient, free to manifest his individuality, sets the pattern both for content and temporal characteristics, while the interviewer must follow him, imposing only the predefined constraints set forth in Tables 2 and 3. Saslow and Matarazzo(12) however made indirect approaches in assessing the reliability of each participant. Their statistical data gave evidence that the interviewer is able both to learn and to follow the rules of the standardized interview to a reasonably high degree.

INTERVIEWEE RELIABILITY

There are 3 published studies concerning this aspect of the method. The first study (14) revealed that the interviewee interaction variables for any given subject are quite stable across 2 different interviewers, when the latter standardized their interviewing behavior (without standardizing the content of their interviews). At the same time, it was demonstrated that the variables are modifiable by planned changes in the intra-interview behavior of each interviewer. A second study(6) replicated the general stability and specific modifiability of interviewee interaction patterns which were found in the first sample of subjects. The second study used a different series of subjects. In a third study(13), the stability and modifiability were again shown when only a single interviewer was used and the test-retest interval was extended to 7 days. The first 2 studies employed a test-retest interval of a few minutes.

With the demonstration of observer, scorer, interviewer and interviewee reliabilities, we turned our attention to the question of the validity of some facets of the interview technique. It has been noted earlier that all the studies described previously were based upon the use of the standardized interview. This contains several sub-periods during which the interviewer's behavior varies in accordance with certain rules

(Table 3). This is in order to control for the known effect on the subject's interaction chronograph responses if the interviewer's behavior varies, as pointed out previously by Goldman-Eisler(3). Since the standardized interview involves complex behavior patterns on the part of the interviewer, the present study concerned itself with the more simple sub-period of the interview. In this study, we limited ourselves to interviews using the behavior of the "free" period, or the Period I type of interviewing. In this period, the interviewer tries to make his utterances as non-directive as possible, approximately 5 sec. long each time, without either interrupting the subject or delaying his response more than half a second.

On the basis of his experience, Chapple selected a duration of 10 min. under baseline condition as representative of a subject's behavior during a nonstressful interaction (Period I). Guze and Menseh(4) studied this question further. Their findings with 19 subjects suggested that the variation within any single 30-min. interview between successive 10-min. intervals of Period I type behavior might be too great to justify selecting 10 min. as a baseline for comparison with other intervals.

We decided to repeat this study with a larger group of subjects and to further evaluate the reliability of a 30-min. Period I type interview using one interviewer, and a 7-day test-retest interval. Ultimately our research plan involves the assessment of the changes in interaction patterns following the administration of controlled doses of drugs. A reliable baseline measure is therefore of utmost importance for this purpose.

METHOD

The present study was initiated after 3 experienced interviewers and an observer practiced the interview technique and observing respectively. The research design called for interviewing 50 white patients randomly selected from the Washington University psychiatry clinic. They were all new patients in the clinic or had not been seen for at least a year. There were 30 males and 20 females, ranging in age from 17 to 72. The presenting problems were typical of the outpatient clinic population. Diagnostically, there were 13 cases of anxiety neurosis,

acute and chronic ; 8 cases of hysteria (conversion reaction) ; 10 cases of depression of the manic-depressive variety ; 4 cases of schizophrenia ; 10 cases of personality disturbances ; 2 cases of chronic brain syndrome ; 1 case of chronic alcoholism ; 1 case of drug addiction ; and 1 case without any obvious clinical psychiatric difficulty.

The interviews were conducted on one side of a one-way vision screen with the observer on the other side to activate the apparatus. Each patient was subjected to a 30-min. interview of Period I type behavior (Table 2). Each patient returned a week later for a similar interview.

Nearly all the previous work dealing with the interaction chronograph in the study of interview interaction has depended upon the use of equipment rented from the E. D. Chapple Co. One of the major advantages to using Chapple's machine is the fact that many of the calculations based upon the basic, observational data are handled automatically and cumulatively. Since we were not interested, however, presently in many of Chapple's second order variables which were based upon various combinations of the basic elements of the interaction, we worked out a satisfactory alternative to Chapple's apparatus.

After experimenting with different kinds of recorders, we selected a 5-channel Esterline-Angus. It uses standardized paper in relatively inexpensive rolls which come ruled in various time intervals. By selecting an appropriate gear ratio, we can run the recorder so that the paper is moved at 3" per min. Using paper No. 1705-C, we found that this provides ruled lines at 2-sec. intervals with heavier lines at 10-sec. intervals and still heavier lines at 60-sec. intervals. These lines are 1/10", 1/2" and 3" apart respectively. The ink line can be read to the nearest second. The record, using this apparatus, consists of 3 continuous synchronous parallel ink tracks, one for the patient, one for the interviewer and a signal track. The appropriate pen is deflected about 1/10" whenever the corresponding key on a small key-box is depressed by the observer to indicate that the designated individual is interacting during the interview. At the conclusion of the interview, the relevant chronograph variables are extracted from

the record : the number of times the patient interacts (units), the duration of the interaction (action) and the duration of the silence (silence).

STATISTICAL ANALYSIS

Both Spearman rank correlation coefficient (ρ) and Pearson product moment correlation coefficients (r) were used. Previous studies (6, 13, 14) suggested that ρ is the more appropriate statistic for this type of data in view of the concomitant problems of extremely narrow ranges, limited frequencies, and some occasional asymmetrical distribution of the scores. Values for r are thus included in the tables only for purposes of comparison.

RESULTS AND DISCUSSION

The total number of units, mean action, and mean silence and their standard deviations are presented for each subject for both interviews in Table 4. The units ranged from 1 to 69 in the first interview, and 1 to 81 in the second interview. The mean actions ranges from 11 sec. to 1800 sec. (or 30 min.) in the first interview, and 17 sec. to 1800 sec. in the second interview. The mean silences ranged from 4.6 sec. to 12.1 sec. in the first interview, and 4.9 sec. to 10.1 sec. in the second interview. There are no standard deviations for the following : the mean silence period of the second interview for subject 14 ; the mean action period of the second interview, and the mean silence period of the first and second interview for subject 36 ; the mean silence period of the second interview for subject 44 ; and the mean action period and mean silence periods of the first and second interview for subject 47. This is because these subjects interacted or were silent only once.

As mentioned earlier, this study confined itself to consideration of only a part of the standardized interview. A major part of the statistical testing therefore was confined to the analysis of the "action" scores. The "silence" variable was not subjected to detailed analysis because inspection revealed a very limited range in the scores for this variable, making statistical analysis of little usefulness. The reason for this can be attributed to the character of the interview itself. In all cases, the maximum time an

TABLE 4
Total Number of Units, Mean Actions, and Mean Silences and Their Standard Deviations for Each Subject
N = 50

(All Values are Given in Sec.)

PATIENT NO.	N ₁	N ₂	ACTION 1	ACTION 2	SILENCE 1	SILENCE 2	ACTION SD ₁	ACTION SD ₂	SILENCE SD ₁	SILENCE SD ₂
1	56	80	24	17	5.6	4.9	15.9	25.2	2.0	2.2
2	19	19	87	88	7.7	6.6	62.8	36.0	3.1	1.6
3	22	18	72	87	8.0	9.6	66.4	53.4	4.0	5.8
4	15	22	123	78	5.9	6.1	33.4	77.5	2.0	1.4
5	44	40	32	36	9.3	10.1	28.2	42.7	4.1	7.5
6	51	46	28	34	6.8	6.6	30.0	31.0	3.6	2.6
7	33	32	51	50	6.4	5.8	37.9	26.6	1.6	2.3
8	61	48	24	32	6.2	6.5	19.2	25.4	2.5	2.1
9	64	73	22	20	6.1	5.5	21.8	19.6	1.9	2.4
10	6	5	307	388	6.6	7.0	125.5	176.6	2.3	5.1
11	13	21	140	78	6.6	9.1	97.6	68.8	1.4	3.2
12	20	15	84	115	7.7	7.1	66.7	61.6	2.7	2.1
13	26	23	61	73	6.6	7.7	51.6	44.9	2.6	3.7
14	7	2	247	902	7.0	8.0	271.5	517.0	2.0	
15	77	70	11	20	5.2	6.0	12.8	12.2	2.6	2.6
16	27	17	70	100	7.1	6.7	79.2	76.9	2.1	2.0
17	10	12	149	147	5.1	6.9	211.1	108.8	4.2	1.8
18	58	39	25	39	6.1	7.3	13.3	21.4	2.6	2.6
19	10	12	162	157	8.4	6.5	220.0	46.5	5.7	2.1
20	4	4	462	426	11.3	8.3	261.0	402.0	4.1	1.2
21	35	53	46	27	6.6	7.7	27.4	12.3	1.1	1.8
22	13	11	138	158	6.4	9.5	110.9	87.8	1.4	2.6
23	27	28	62	58	6.5	7.3	34.7	40.1	2.1	1.7
24	13	19	136	89	6.9	9.4	80.5	39.6	1.4	2.8
25	6	8	240	219	5.8	5.7	147.2	142.0	1.3	1.0
26	69	31	19	51	6.2	6.4	13.0	34.2	2.3	2.0
27	37	41	41	40	5.0	5.4	21.4	14.6	1.0	1.3
28	65	69	21	20	7.5	7.1	8.3	12.6	1.7	1.7
29	7	9	288	217	8.8	6.0	224.8	249.0	3.0	.7
30	16	25	110	62	8.1	5.6	89.5	41.3	3.1	1.6
31	35	19	47	94	6.8	8.9	42.2	76.7	3.7	4.9
32	10	12	170	154	6.0	5.1	85.9	98.9	1.7	1.3
33	28	21	60	85	6.1	6.2	60.5	78.8	1.4	2.0
34	27	15	68	120	6.5	6.8	63.1	105.6	3.2	2.4
35	5	13	421	150	8.8	5.8	258.8	83.5	1.7	1.5
36	8	1	227	1800	8	5.0	490.5			
37	31	16	52	104	6.1	7.3	30.9	41.9	1.5	1.5
38	32	19	50	105	7.2	7.1	50.1	122.3	1.5	1.6
39	67	81	20	18	7.9	6.9	10.2	11.4	2.6	2.6
40	20	20	88	90	12.1	6.2	61.8	71.4	1.8	1.4
41	25	39	62	40	8.2	7.7	78.2	35.9	1.9	2.2
42	29	29	60	55	8.0	7.8	98.6	46.3	2.0	2.1
43	38	37	41	40	7.5	9.3	28.0	33.4	1.2	4.9
44	3	2	573	967	7.5	7.0	199.3	547.5	.5	
45	46	49	40	31	6.4	5.7	23.4	19.5	2.1	1.4
46	9	6	205	364	7.7	7.2	133.7	689.2	3.2	1.4
47	1	1	1800	1800	5.0	5.0				
48	12	5	150	367	4.6	5.2	173.8	253.0	4.6	4.7
49	25	32	56	49	8.0	7.6	41.5	10.1	1.8	1.3
50	11	6	182	356	4.9	5.8	314.9	281.8	1.3	1.6

R _g =	1-69	1-81	11-1800	17-1800	4.6-12.1	4.9-10.1
Σ =	1373	1350	7683	10974	350.8	346
M =	27.5	27.0	153.6	115.5	6.98	6.94
σ =	20.1	17.2	266.9	141.9	1.5	1.3

interviewee can possibly be silent is 15 sec. (Table 3). It is therefore apparent that variations in the silence score are not likely to be striking.

According to the "rules" of the standardized interview (Table 3) no restrictions are placed on the length of the "action" period (the duration a patient talks). The subjects could vary in their behavior in this Period I type of interviewing so that the length of this period could range from, say, 1 sec. to 1800 sec.—the full 30 min. We arbitrarily assigned the duration of 1800 sec. to subjects that interacted once for the whole period. Such is the case in the second interview with subject 36 and in the first and second interview with subject 47. Analysis of the data in Table 4 will show that the scores are of an asymmetrical distribution. The distribution is graphically represented in the accompanying histogram (Graph 1).

The rank order correlations (ρ) and the Pearson correlation coefficients (r) for mean actions are shown in Table 5. $A_1-A_2-A_3-A_{1,2}-A_{1,2,3}$ represent mean actions in the first 10 min., second 10 min., third 10 min., first 20 min. and entire 30 min. respec-

tively of the first interview. $B_1-B_2-B_3-B_{1,2}-B_{1,2,3}$ represent the same parts of the second interview. It will be noted that N is not 50 in each case. This is because in some patients, it was not possible to divide the full interviews into 10-min. sections since the subjects continued to talk beyond the 10-min. point.

Examination of the data in Table 5 shows the striking stability in the action variable from one interview to another conducted a week later. The correlations between the whole 30-min. interviews and the correlations between the successive 10-min. periods within a single interview are all highly significant. These results agree with the hypothesis that patients unfold their behavior during the course of a 30-min. interview in a way that is reliable from interview to interview, and that the behavior early in a given interview is very much like the behavior later in the same interview. The findings revealing the stability of the 10-min. period in this study is in contrast to an earlier observation previously noted (4). A re-analysis of the data (mean actions) in the previous study, however, revealed some significant points. Their data were found also

GRAPH 1
DISTRIBUTION OF SCORES IN 50 SUBJECTS
(from Data in Table 4)

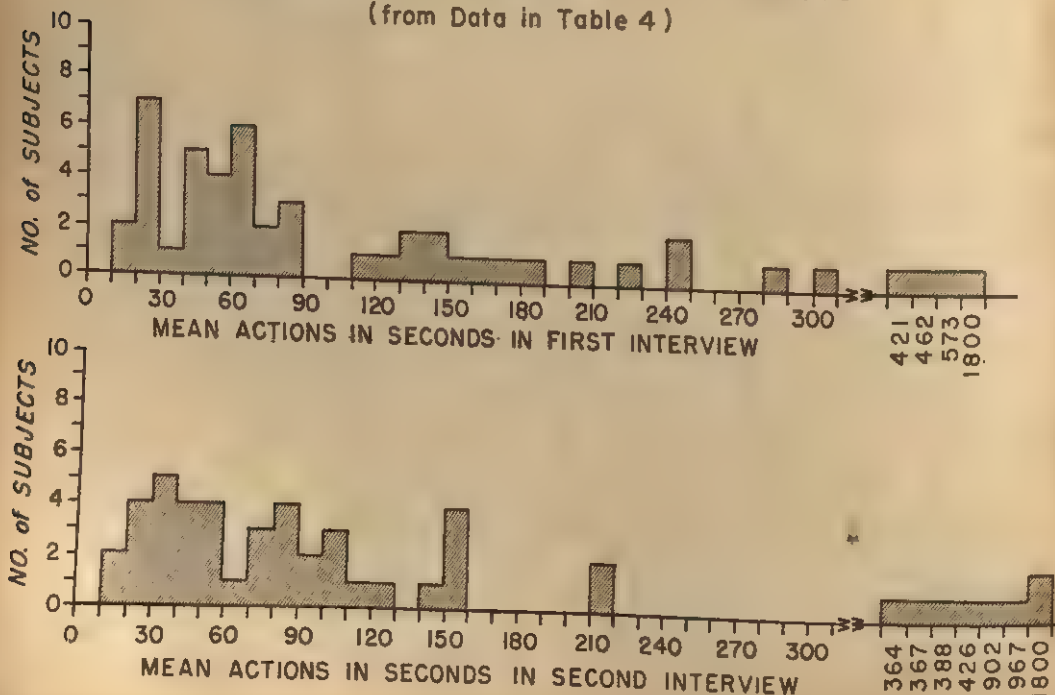


TABLE 5
Coefficients of Correlation for Patients' Action *

FIRST INTERVIEW	SECOND INTERVIEW	NO. OF PTS.	r	rho
A ₁	B ₁	38	.621+	.720+
A ₂	B ₂	38	.546	.762
A ₃	B ₃	38	.430	.741
A ₁₂	B ₁₂	38	.634	.797
A ₁₂₃	B ₁₂₃	50	.718	.903
A ₁	A ₂	40	.882	.802
A ₂	A ₃	40	.631	.828
A ₁	A ₃	40	.544	.700
B ₁	B ₂	41	.718	.980
B ₂	B ₃	41	.427	.843
B ₁	B ₃	41	.425	.823
A ₁	A ₁₂	40	.933	.945
A ₁	A ₁₂₃	40	.901	.882
B ₁	B ₁₂	41	.924	.805
B ₁	B ₁₂₃	41	.890	.768
A ₁₂	A ₁₂₃	40	.936	.949
B ₁₂	B ₁₂₃	41	.951	.979

* All values given in seconds.

† All r's and rho's are significant at the .01 level.

to follow a skewed distribution. A rank order correlation, a more appropriate statistic than the Pearson r which was used, for the 10-min. periods in the other study showed values of .700, .722 and .839 for Periods 1 and 2, 1 and 3, and 2 and 3, respectively. These are all significant at the .01 level of confidence and compare favorably with our findings.

Reading across the rank order correlations in Table 5, one is struck by the consistently lower correlations obtained in comparing the successive 10-min. periods of the first interview with the correlations obtained between successive 10-min. periods

in the second interview. The reason for this difference is not apparent at present. That this is a function of true patient-stability as a result of interacting with the same examiner a second time is suggested as a tentative hypothesis. Our data do not provide the answer. Finally a word should be mentioned about the high value of the correlation coefficient obtained for the total interview. The rho of .903 for the full 30 min. is seen as the highest value obtained. This finding naturally suggests that the reliability increases proportionately as the number of observations increases.

Table 6 shows the data in 3 reliability

TABLE 6
Test-Retest—Interaction Variables—Total Standardized Interview
In 3 Series of Subjects Together with the Present Series

SERIES		UNITS		ACTION		SILENCE	
		MEAN	RANGE	MEAN	RANGE	MEAN	RANGE
Original (20 Sx)	Dr. 1	72.20	25 to 127	48.20	13 to 154	9.10	4 to 19
	Dr. 2	69.85	29 to 112	43.90	9 to 136	8.20	4 to 13
	Rho		.807*	.847*		.854*	
Replication (20 Sx)	Dr. 1	68.30	39 to 132	44.15	12 to 93	9.10	5 to 18
	Dr. 2	76.65	41 to 133	39.35	12 to 93	9.00	6 to 15
	Rho		.917*	.945*		.859*	
Seven-day (20 Sx)	First	72.30	43 to 118	34.55	5 to 86	9.75	6 to 24
	Second	78.30	48 to 131	34.05	9 to 73	9.30	6 to 15
	Rho		.765*	.597*		.582*	
Present Study (N=50)	First	27.5	1 to 77	153.6	11 to 1829	6.98	5 to 12
	Second	27.0	1 to 81	115.5	17 to 2036	6.94	5 to 10
	Rho		.980*	.903*		.946*	

* Significant at the .01 level.

studies reported previously. The results of the present study are given for comparison. The marked concordance of our findings with previous works is quite striking. The findings of much less variability (or more stability) of the 3 variables (units, actions, silences) in our series can be accounted for by several factors: firstly, our investigation dealt with a much larger sample (50 vs. 20); secondly, we utilized only the simple part of the standardized interview; and lastly, we extended the observation from 10 to 30 min.

SUMMARY

A brief review of the concepts and methods involved in the objective description and measurement of "personality" by means of interaction chronograph methods, together with a comment on previous studies, have been presented.

The present study was concerned with testing the reliability of 10-min. and 30-min. samples of Period I type behavior, following the rules of a partially standardized interview. Using interaction chronograph measures, it was concluded that 10 min. are sufficient to reach a stable pattern of patient communication under Period I conditions. It was established further that extending the period of observation to 30 min. offers a much more stabilized interaction.

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TREATMENT METHODS AND FASHIONS IN TREATMENT

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It seems that in the current practice of psychiatry, the fashion for almost every kind of nervous and mental disorder is pharmacotherapy. There are "psychotropic" and "neuroleptic" tranquilizers, energizers (can brain function be "energized"?), antidepressants, hallucinogenic chemicals, and other drugs, all representing the latest in psychiatric treatment.

But while the chemists produce more rings and side chains to the already existing compounds, perhaps we should take a second look at the impact of this new wave of pharmacological therapy on clinical practice. Fashions in medicine, as in clothes and cars, can lead too readily to a discard of the usable and useful. Proven therapeutic methods may be brushed aside for the sake of boarding the bandwagon. With such easy acceptance of newer agents no time is taken to evaluate their worth. This illusion of progress can be damaging as dubious rationalizations (needed to reinforce the illusion), often cover up failures in clinical judgment and integrity.

Psychiatrists today are pounded by impressive reprints of scientific articles, extravagant brochures, and eloquent detail men offering samples and promoting the therapeutic merits of various pharmacological products. For example, it is claimed that a certain antidepressant drug will "eliminate" or "reduce" the need for electroshock treatment (ECT), or serve as a useful alternative. The sales literature is replete with implications that ECT is to be avoided, that it is old-fashioned, and that it is almost contraindicated when compared to an available drug which can be prescribed in a convenient dosage regimen. Such an appeal (especially if the psychiatrist or other physician is not geared to administer ECT personally), is of course, very persuasive. Just have the patient take the pill and await the desired results.

A brochure on one of the very newest antidepressants states that of a certain number of psychotic patients suffering from in-

voluntional melancholia who received this drug, 27% showed marked improvement and 35% moderate improvement. In manic-depressive disease, 34% showed marked improvement and 31% moderate improvement.

But suppose we look at it from the point of view of the patient's need and consider the therapeutic goals required for him. First, we compare the results reported in the brochure with our own intimate knowledge of ECT. In this writer's 15 years of personal experience with ECT, 75% of patients with involuntional melancholia were markedly improved with an average of 9 treatments given in a 3 week period. Such results are confirmed by the work of innumerable clinics throughout the world and Arthur P. Noyes² states: "In the depressions of involuntional melancholia and of manic-depressive psychosis the improvement following ECT is striking. In 80% or more of these disorders five to ten treatments are followed by full or social recovery." Why then, with almost three times the desired results should we discard this treatment? *Must* we be fashionable?

Moreover, there are other and subtler considerations such as the duration of the patient's illness, the degree of suffering, the economic loss to the patient and, particularly in the depressions, the danger of suicide. A fairly common experience where the patient served as her own control can be cited:

A 48-year-old housewife who suffered from repeated manic-depressive, depressed episodes had her first significant depression in 1944. She was ill for 6 months before being treated but recovered after 12 ECT's with a full remission. The second severe depression in 1957 was treated for 4 months with antidepressant drugs and psychotherapy. The patient showed no improvement, finally requiring 14 ECT's for her recovery from that episode. With the onset of the third significant depression in 1961 the patient's husband brought her for treatment after 2 weeks of illness (anorexia, insomnia,

² Noyes, Arthur P.; *Modern Clinical Psychiatry*. 4th Ed. Philadelphia: W. B. Saunders Co., 1953.

¹ 45 E. 85th St., New York 28, N. Y.

tearfulness, self-depreciation, and suicidal pre-occupation). ECT was given immediately. This time the illness required only 8 treatments in an 18 day period for a full remission (although the patient was relieved of "mental pain" and suicidal thoughts after the 4th treatment in an 8 day period).

Early institution of treatment with a proven procedure aborted the illness in less than 3 weeks; the very similar episode 4 years previously, treated first with drugs, required nearly 6 months of therapy (and suffering) and almost twice the amount of ECT because of the delay in administering such therapy.

In dealing with those patients where pharmacological agents have failed to help the condition, this writer has noted that drugs, in too many instances, have deepened the depression, made it refractory to ECT (or at best, created the need for more ECT than previously required), or have helped to convert acute but relatively manageable depressions, into chronic states with poorer prognoses.

Pharmacotherapy is of course proving an enormous benefit to psychiatry and is undoubtedly an addendum to the therapeutic armamentarium. Many patients react to drugs when the illness has not responded to other methods and in numerous cases the drugs are of great value both primarily and adjunctively in the management of a psychiatric patient. Such drugs have also opened many new doors to the mysteries of brain metabolism, neurochemistry and neu-

rophysiology. But why abandon our great store of knowledge which has been so carefully accumulated simply because a new multicolored package wrapped in plastic is handier? It seems as if the clinician who waits for the "follow up reports" and is not content with the large print and graphic displays of the "most recent developments" is in the minority—and old-fashioned.

In clinical practice, the primary goal in therapy is to return the patient to an optimum functioning level in accordance with his potentialities and abilities, and to keep him at this level. Having diagnosed the nature of the disease process, the psychiatrist, rather than reach for the latest sample of a drug in his desk drawer, will structure a comprehensive program, using all forms of treatment available for maximal improvement.

The advent of new treatment measures is always exciting. It creates fresh approaches to research, to studies in etiology and pathology and of course, to diagnosis and treatment. But clinically, the criterion is not newness; it is effectiveness and therapeutic results. Thus, all psychiatrists and other physicians have an obligation to the patient not to discard the useful for the latest, while the younger physicians, particularly those about to go into practice, might do well to familiarize themselves with the "old-fashioned" as well as the new. Fashions do change rapidly in our current age of technology but the responsibility to heal the sick is as old as medicine and this does not change.

CLINICAL NOTES

(The Clinical Notes report the findings of the authors and do not necessarily represent the opinions of the Journal.)

SODIUM AND POTASSIUM CONTENT OF CEREBROSPINAL FLUID COLLECTED FROM PATIENTS WITH CHRONIC SCHIZOPHRENIC REACTIONS¹

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During the course of studies(1, 2) primarily concerned with other biochemical properties of cerebrospinal fluid (CSF) collected from patients with schizophrenic reactions, the opportunity was taken to determine potassium and sodium content as well. Although previous studies by others(3, 4, 5) failed to indicate that sodium or potassium occur in abnormal amounts in CSF collected from such psychotic patients, the paucity of data encouraged the assay of these substances in the relatively large number of specimens available.

CSF was collected by lumbar tap from 92 hospitalized patients with a diagnosis of chronic schizophrenic reaction. None was in a highly excited state at the time of study and none exhibited catatonic stupor. Many of the patients were receiving phenothiazine derivatives at the time of study. Sodium and potassium were determined

by flame photometry(6), using a Baird-Atomic flame photometer, model KY 1.

The results of these determinations (see Table 1) indicated that the content of potassium and sodium in cerebrospinal fluid collected from patients with schizophrenic reactions is not different from the content of these substances in CSF collected from patients without significant disease (see Table 2). Further, among the schizophrenic patients, no significant differences in CSF potassium or sodium content were observed when the patients were separated into the diagnostic subcategories of catatonic, paranoid, hebephrenic, or undifferentiated schizophrenia.

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TABLE 1
Schizophrenic Subjects

N		K (milliequivalents/liter)			Na (milliequivalents)		
		Mean	S.D. ^a	S.E.M. ^a	Mean	S.D. ^a	S.E.M. ^a
41	Schizophrenia (undifferentiated)	2.97	0.241	0.038	144.12	9.495	1.483
31	Paranoid schizophrenia	3.03	0.188	0.034	145.68	7.820	1.405
12	Catatonic schizophrenia	3.01	0.203	0.072	145.62	6.523	2.306
8	Hebephrenic schizophrenia	2.96	0.173	0.050	142.58	9.424	2.720
92	TOTAL	2.99	0.212	0.022	144.58	8.656	0.902

^a Standard deviation.

^b Standard error of the mean.

TABLE 2
Normal Subjects

N	Source of Data (See Bibliography)	K (milliequivalents/liter)		Na (milliequivalents/liter)	
		Mean	S.D. ^a	Mean	S.D. ^a
100	(7)	2.88	—	142.47	—
20	(8)	2.96	—	140.60	—
75	(9)	2.97	0.399	143.40	5.74

^a Standard deviation.

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PAIRED EPISODES OF MANIC-DEPRESSIVE ILLNESS
WITHIN A SINGLE FAMILY

GEORGE E. VAILLANT, M.D.¹

Jacobs and Mesnikoff(1) reported 4 pairs of twins who demonstrated "alternating psychoses." Although 3 of their twin pairs were identical, the authors suggested psychological factors were responsible for the reported paring of illnesses. Since no study of identical twins can ignore hereditary factors, their thesis can be criticized for failing to discuss this aspect. One might expect identical twins to become ill at the same time. A recent paper by Rosenthal(2) demonstrates how misleading disregard for genetic factors can be, and sharply criticizes the concept that predominantly psychological factors lead to the pairing of schizophrenic illnesses in twins.

This report casts no new light upon genetics but does lend support to the idea that simultaneous onset of psychosis in relatives would appear to have variables other than heredity. The report concerns a family that exhibits a high incidence of manic-depressive psychosis, but whose members, although of different ages, appeared to become ill and to be hospitalized in relation to one another (Figure 1).

The A. family had depressive illness in at least half of the members in direct con-

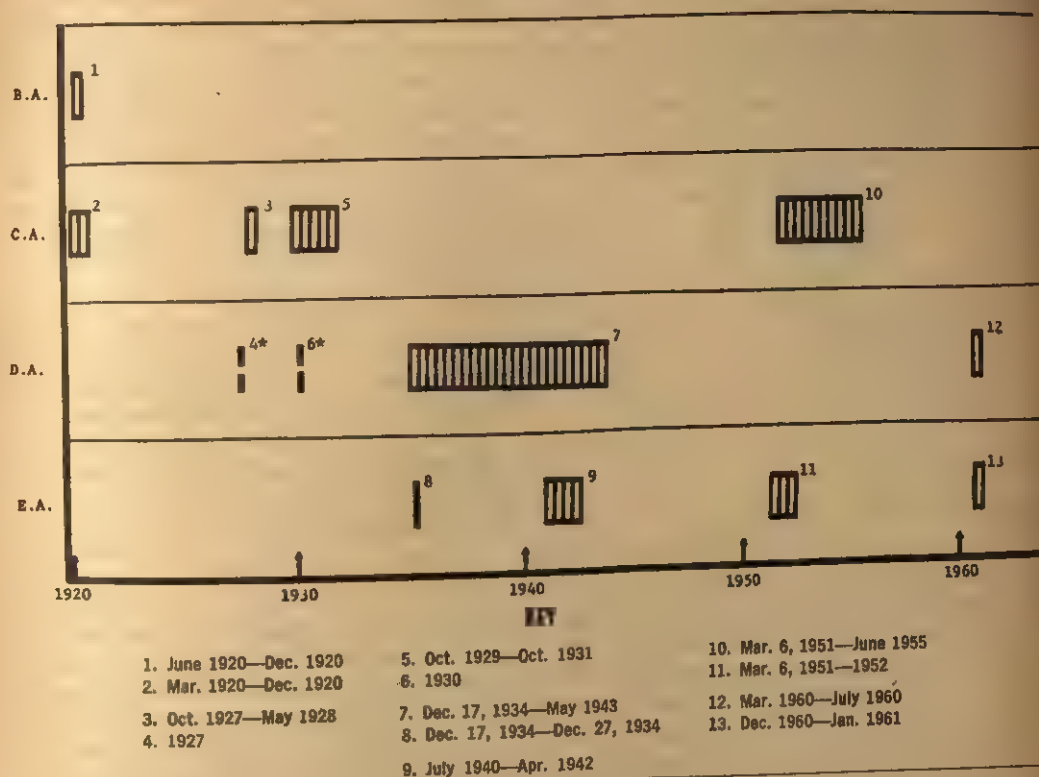
sanguinity to the trio of siblings under study. A grandfather, a maternal aunt, a paternal uncle were all definitely hospitalized; and both parents were alleged to be clinically depressed. Although in the case of 2 of the siblings the diagnosis was initially dementia praecox, retrospective examination of the records reveals that the recorded clinical pictures were equally compatible with manic-depressive illness, and in time the latter diagnosis became clear. The patients recovered from each episode without benefit of somatic treatment or of extensive psychotherapy, and recovered without social deficit, flattened affect, or loosened associations.

The A. family were very close. The 3 children were orphaned in 1910 and lived in a small New England town with their 2 aunts and an uncle. For almost all of their lives they have remained within a few miles of one another, whenever practical have visited each other once a week, and for more than 50 years have been perhaps the most important objects in each others' lives. Only one of the children, D.A., married.

In 1900 at the birth of C.A., the foster mother and aunt of the 3 children had a depression. In 1920 this aunt, B.A., was first hospitalized 3 months after C.A. became ill with an acute psychotic episode. Although

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FIGURE 1



B.A. was the dutiful, if cold, foster mother when well, she wished to kill C.A. when sick.

Both women made full recoveries, but C.A. had 2 more hospitalizations in 1927 and 1929. On the second admission she finally received the diagnosis "manic-depressive-depressed"; this remained her diagnosis on subsequent admissions. During both her periods of hospitalization, the brother, D.A., experienced bouts of manic behaviour; but although these led to manifestly inappropriate social and business activity, they did not necessitate hospitalization.

On December 17, 1934, the day he was to take his sister, E.A., to the hospital for what was diagnosed as "nervous exhaustion," D.A. became acutely manic and was hospitalized himself for 8 years; except for the manic episodes 5 years earlier, there had been no prodromal symptoms. His mental status varied but was always most consistent with manic-depressive psychosis. His sister was able to return to work after sev-

eral days' hospitalization. Two years later, B.A. died from a cerebrovascular accident; none of the siblings became ill at this time.

In 1940 the youngest sister, E.A., again required hospitalization. She was excited, hallucinating, and her mental content centered around the poor care her brother was receiving in the mental hospital. This was the only illness unlinked by direct temporal association with the onset of illness in another member. The marked affective component of her schizophrenia-like illness led to her diagnosis remaining unclear. After a year she was discharged, "recovered," and held several responsible jobs as did her brother who was discharged a year later.

On March 6, 1951 E.A. took her sister C.A. to the hospital for a severe depression. While the social worker was admitting C.A., E.A. suddenly ceased to be the responsible sibling answering the social worker's questions; she became mute and that afternoon had to be admitted by ambulance to another state hospital. Here, she changed from mute withdrawn behaviour to an acute

manic state, was diagnosed as "manic-depressive—other types," and made a rapid recovery. C.A., on the other hand, although often leaving the hospital on visit, was not discharged for 5 years. Both sisters returned to responsible employment.

In the summer of 1960, following the marriage of his daughter and the loss of his job, D.A. again became agitated and depressed and was hospitalized for 4 months. After he was discharged, his sister, E.A., became increasingly depressed, found work difficult, and finally was dismissed. She was admitted to the hospital somewhat retarded and unable to assume responsibility for her own care. In 2 months she had improved and returned to work.

DISCUSSION

Several facets of this case deserve attention. First, 12 out of 13 psychotic episodes which occurred in 4 individuals over a span of 40 years were paired within a year of each other. The odds are greater than 1 in 10,000 against such coupling occurring by chance. Two pairs of hospitalizations occurred on the same day. Secondly, each member initiated at least one of the paired illnesses; each one except the aunt remained ill for at least a year; and in no case were there shared delusions. This evidence militates against the phenomena of *folie à deux* or psychotic symptomatology

secondary to a conversion reaction.

Finally, although the strong family background suggests a real genetic predisposition, both the striking pairing of the hospitalizations and the excellent social adjustment between illnesses suggest that intrafamilial psychologic factors were crucial in the decompensations. For although extensive psychodynamic evidence is not available, the whole family appeared to exhibit the delicate reciprocal relationships that other studies have ascribed only to twins or mother-child pairs. The same excessive interdependence and covert hostility towards the relative, noted in the study of Jacobs and Mesnikoff, were evident. In 3 cases the particular relative who became ill second had felt directly responsible for the one first hospitalized.

SUMMARY

For one family data are presented to suggest that the specific stress of psychosis in a relative can serve as one of the major precipitating factors in what otherwise might appear to be a largely genetically determined psychosis.

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A CLINICAL EVALUATION OF MELLARIL

SOL SHERMAN, M.D.¹

There is little doubt that the phenothiazines have been a boon to the treatment of mental disorders, especially schizophrenic reactions. Following the introduction of the phenothiazine group, there have been attempts to alter the nucleus in an effort to prepare tranquilizers of greater potency, but this has wrought little other than a "battle of the milligrams" comparable to that evidenced earlier with a progression of "new" steroids for the treatment of collagen diseases. While it is true that "more potent"

tranquilizers have been developed, the consequences have not been all salutary, for there has been a noticeable increase in incidence and severity of side effects, especially those related to extrapyramidal stimulation(1).

The value of any therapeutic agent is a composite of clinical efficacy and toleration, and this report is concerned with a phenothiazine that appears to exhibit a high index of usefulness. The chemical configuration of Mellaril² (thioridazine hydrochlor-

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² Sandoz Pharmaceuticals.

ide) is somewhat unique in having a thiomethyl radical in position 2 and a piperidine ring in position 10. A number of clinical studies have shown it to be an effective tranquilizer with little tendency to produce Parkinsonism and devoid of the dystonic reactions encountered with other agents of this class (2, 3, 4).

Mellaril was evaluated over a period of

optimum effect was obtained. A maximum dose of 1600 mg. daily was employed in a few cases, but in general, dosage ranged from 75-600 mg. daily. Special care was taken to titrate dosage to suit the needs of each patient. Each patient was his own control; his response to Mellaril compared with previous medication serving as the yardstick of improvement or lack of it.

TABLE 1

Diagnoses	
Personality Disorders	1
a. Inadequate personality	1
b. Schizoid personality	1
Schizophrenic reaction, acute undifferentiated type	12
Schizophrenic reaction, chronic undifferentiated type	3
Schizophrenic reaction, hebephrenic	21
Schizophrenic reaction, catatonic	14
Schizophrenic reaction, paranoid	1
Schizophrenic reaction, simple	2
Chronic brain syndrome with convulsive disorder (deterioration)	1
Chronic brain syndrome with convulsive disorder (epilepsy)	1
Chronic brain syndrome with cerebral arteriosclerosis	1
Chronic brain syndrome associated with alcoholic intoxication (Korsakoff)	2
Psychoneurotic reaction, obsessive compulsive	4
Psychotic disorder, manic	2
Psychotic disorder, depressed	1
Schizophrenic reaction, schizo-affective type	2
Unclassified	3
Psychosis with mental deficiency, imbecile	1
Chronic brain syndrome with senile disease	
	74 Patients

20 months in 74 male patients, aged 14-78 (average 42 years) who had been confined to hospital^a for periods ranging from 1 to 31 years (average 8 years). Diagnoses are shown in Table 1 and a breakdown of psychiatric symptomatology in Table 2. In essence, these patients were disorganized and restless, exhibited disturbed thinking and action and were noisy and untidy in their general habits.

This series of patients had previously received various forms of treatment, including most of the presently available tranquilizers, alone or in combination with "energizers," MAO inhibitors and EST and had not responded adequately. The starting dose of Mellaril was 25 mg. t.i.d., maintained for 5-6 days and then gradually increased until

TABLE 2

Psychic Symptoms	
Anxiety	7
Nervous tension	14
Apprehension	8
Insomnia	5
Restlessness	21
Headaches	5
Crying spells	11
Dizziness	2
Tremors	1
Sighing respiration	3
Heart consciousness	1
Violent outbursts	16
Confused states	16
Destructive behavior	12
Poor impulse control	14
Delirium	2
Hallucinations	25

^a Metropolitan State Hospital.

RESULTS

Of the 74 cases, 19 were rated excellent, having improved sufficiently to permit discharge or parole; 16 were considered markedly improved, as measured by significant quietening and tidiness—these were permitted ground privileges and visits to their homes; 15 were rated fair, demonstrating fewer outbursts and moderate improvement. The remaining 24 patients showed no improvement, some through refusal to take medication or discontinuation thereof.

It was interesting to note a change in the ward atmosphere coincident with quietening of the more agitated cases, reduction in disturbances and altercations, better rapport among patients and with nursing personnel. An improved sense of well-being amongst most of the patients was an observation reported by several of the attendants.

The only side effects of any consequence were seen in 2 patients who exhibited pseudoparkinsonism, which occurred near the conclusion of the study and which dissipated following reduction in dosage. Special attention was paid to blood checks(5), with tests being performed before the institution of therapy and once a month thereafter. However, no sign of blood dyscrasia was evidenced throughout this study.

Comparing Mellaril with other therapies that had been employed, it was noted that

the patients receiving it seemed to be alert, in contrast to the "knocked-out" state that had been seen with some phenothiazines. Previous trial with other phenothiazines had been disappointing because of the extrapyramidal symptoms, which appeared with doses too low to afford adequate clinical improvement. It would seem that increased toleration was the major factor in permitting Mellaril to demonstrate its therapeutic potential to a greater extent than that obtained with the other compounds.

SUMMARY

A clinical evaluation of Mellaril in 74 chronic psychotics has shown it to be an effective and well tolerated tranquilizer. Its ability to control or modify major emotional disorders with little or no clouding of consciousness or extrapyramidal stimulation is its greatest *forte* in comparing it with other phenothiazines.

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THE USE OF PARNATE IN THE TREATMENT OF DEPRESSION

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Management of the depressed patient remains a complex problem for the clinician. Many of these illnesses prove to be very refractory when the criterion of full remission is utilized and a good deal of flexibility and persistence is required on the part of the physician and his patient. The full armamentarium of the clinician, including psychotherapeutic interview, convulsive therapy, outpatient convulsive therapy, the

use of monoamine oxydase inhibitors and other antidepressant medications, particularly Tofranil, may be utilized.

This clinical note will describe work with a promising new antidepressant medication, Parnate.² All patients in this study were treated by this physician in private practice, both in and out of the hospital. Thirty-three patients received Parnate with Stelazine, 1 or 2 mg. in a tablet, Parstelin. The patients

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² Medication for this study was furnished by Smith Kline & French Laboratories.

were all depressed and most suffered from involutional depressive states. A number of patients had been previously treated with several series of convulsive therapy and a variety of medications, including Stelazine, over the years. Several patients suffered from illnesses which were of schizophrenic nature but with substantial depressive elements. The patients ranged in age from 20 to 70 years.

Results with this medication, administered in dosages averaging 30 mg. of Parnate daily and 3 to 6 mg. of Stelazine daily were generally impressive. Even more impressive was the specific response of several patients who had been in the care of this physician for 5 or 6 years and who had previously failed to obtain substantial or sustaining remission. During one 2-month period, a group of 4 patients were switched from Parnate and Stelazine and were placed on Stelazine and another antidepressant medication. Three of these patients sustained relapses during a 2-month period and thence improved again when placed back on Parnate. Although there were some patients who were totally non-responsive, approximately two-thirds improved moderately to substantially. There were no serious toxic side effects although some patients complained of dryness of the mouth, sweating and some dizziness. The dizziness appeared to be associated with sudden change of bodily position. Another occasionally disturbing side effect was a rather sudden sharp headache which 4 patients reported.

These headaches which were apparently related to the medication and occurred once or twice during the treatment were of brief duration, and not accompanied by any neurologic signs. The headaches were controlled by aspirin.

Routine blood and urine tests and liver function tests were done. No alterations were noted.

The clinical course of these patients was somewhat variable but those who responded well tended to improve during the first 2 weeks and only 2 patients in the group responded well after a period longer than 2 weeks. Following an initial favorable response, the medication was continued, though in smaller doses for periods beyond several months. Some patients have discontinued the medication and have sustained their improvement.

SUMMARY

Six months of clinical experience with a new antidepressant medication, Parnate (tranylcypromine), indicates that this compound is a very effective monoamine oxidase inhibitor. It appears to act fairly rapidly in a wide variety of depressive states and in this examiner's hands seemed to effect remission in several very refractory depressive illnesses. It would appear to be indicated in the treatment of any form of depression and warrants trial in some long depressive illnesses which had been non-responsive to other therapies.

A NON-REPORTED SIDE EFFECT OF IMIPRAMINE

CARLOS A. LEON, M.D.¹

In a group of 50 patients receiving imipramine,² 30 of whom were followed-up for more than 6 months, we found that 5 of the latter presented the following hitherto undescribed reaction:

Around the first or second week of treat-

ment under a daily oral dose of 100-150 mg. of imipramine, an unexpected phenomenon occurred described by the patients as "electric shock," "jerk," "sudden thrill." This happened in all cases when the patients were resting in bed and most often when they were about to fall asleep.

Detailed inquiries about the peculiarities of the above mentioned phenomenon, and the fact that one of the patients who experienced it is a physician, allowed us to

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² Supplied as Tofranil through the courtesy of Geigy Laboratories, Basilea.

characterize it as a *single generalized tonic muscular contraction producing hyperextension and lasting for only about a second or less*. No other symptoms were described as preceding, accompanying or following this reaction. Alarm and preoccupation about the symptom were experienced by all patients in moderate-to-intense degrees leading in one case to discontinuance of the medication.

Only one of the patients was receiving additional medication at the time the reaction occurred. None of the patients had ever complained of convulsive disorders in the past. The therapeutic effect in all cases was satisfactory.

Although the symptom occurred usually for several times during the same day, the interval between episodes was never shorter than 2 hours.

We will summarize briefly the case histories :

Case 1. A 38-year-old married male with a diagnosis of manic-depressive reaction, depressive type. Started on 75 mg. a day of imipramine, increased gradually to 150 mg. a day within a week, kept at this dose for 4 weeks, to be gradually reduced to a maintenance dose of 50 mg. a day. On the third week he complained anxiously of having experienced a sensation of "electric shock on the whole body" while falling asleep. This was repeated frequently in the course of the following 3 weeks, appearing at least once a day always when the patient was at rest. Disappeared spontaneously at the end of the sixth week.

Case 2. A 50-year-old widowed female diagnosed as chronic depressive reaction. Imipramine was started at a daily dose of 75 mg. which was increased within 3 days to 125 mg., sustained for a month and then gradually reduced to 50 mg. a day for 2 months. During the first week she experienced "jerks" as if produced by "an electric discharge." The "jerks" continued throughout the fourth week especially when patient was at rest and then disappeared spontaneously.

Case 3. A 60-year-old married male with a diagnosis of involutional reaction. Imipramine was started at a daily dose of 100 mg., increased to 150 at the beginning of the second week, sustained for 2 weeks and then gradually reduced to 50 mg. a day within the following month. During the second week, patient complained of "sudden jerks" or "thrills" generalized to the whole body, which occurred when

he was at rest. These episodes repeated frequently along the second and third week ; patient became quite alarmed about the symptom and discontinued the medication on his own, but was persuaded to restart it the following day at a reduced dose of 100 mg. a day. No symptoms appeared hereafter.

Case 4. A 27-year-old single female diagnosed as schizophrenic reaction, chronic undifferentiated type with superimposed depression. Imipramine was started at a daily dose of 100 mg., increased to 150 mg. on the second week, sustained for 1 month and gradually reduced to 5 mg. within the following month. Eight days after the medication was started, patient experienced a "reaction like an electric discharge" while she was about to fall asleep ; this was repeated several times for 3-4 days while at rest and caused her a great deal of concern but disappeared spontaneously after this short period.

Case 5. A 35-year-old married male with a diagnosis of depressive reaction in an emotionally unstable personality. Imipramine was started at a daily dose of 100 mg., increased to 150 mg. within the first week ; this was sustained for 1 month and then gradually reduced to a daily maintenance dose of 50 mg., within the following month. During all this period, patient kept taking a daily dose of 400 to 1200 mg. of meprobamate, which he started to take 3 months prior to the depressive crisis without ever experiencing undesirable reactions. During the second week, he complained one night of "an instantaneous convulsion" which was repeated on several occasions throughout the fourth week ; he was quite anxious about the symptom and feared that he may develop epilepsy, but it disappeared spontaneously.

DISCUSSION

We have described an undesirable side effect of imipramine which does not seem to be related to individual intolerance, amount of drug or time of administration.

Speculations as to the nature of the phenomenon point to the possibility of a convulsive-like disorder related to cortical or subcortical excitation or to a lowering of the convulsive threshold. The effect seems to wear off spontaneously within a variable period of time.

Epileptic G. M. seizures have been reported in patients treated with M. A. O. inhibitors³ including one case who received imipramine.

³ Sharp, W. L.: Am. J. Psychiat., 117 : 458, Nov. 1960.

The interesting characteristics of the side effect and its apparently high incidence (10% of our cases) make further investigations most desirable.

INDUCED 5-HYDROXY-INDOLE-ACETIC ACIDURIA IN THE SCHIZOPHRENIC AND THE NON-SCHIZOPHRENIC PSYCHIATRIC PATIENT¹

PAUL KOCH, Ph.D., CAMILLE LAURIN, M.D., PIERRE LEFEBVRE, M.D.,
AND PIERRE B. BOURDON, M.D.²

5-hydroxy-indole-acetic acid (5-HIAA) is the urinary endmetabolite of serotonin. Since it has been shown that increasing the brain serotonin will result in hallucinoses (1, 2), an aberration of the serotonin metabolism was hypothesized to be contributory to schizophrenia.

Variations of 5-HIAA are easy to measure. Thus they were a convenient way to demonstrate variations of serotonin metabolism. Several papers deal with differences between schizophrenics and non-schizophrenics in respect to 5-HIAA uria. Feldstein, *et al.* (3) and Buscaino, *et al.* (4) did not find any differences between 5-HIAA uria in normals and schizophrenics. Attempts to induce 5-HIAA uria brought conflicting results. Buscaino, *et al.* (4) find that injected serotonin-creatinine-sulfate shows up as 5-HIAA in schizophrenics at a much higher rate than in normals. Zeller, *et al.* (5) and Lauer, *et al.* (6) report that oral tryptophane will increase 5-HIAA in the normal but not in the schizophrenic. Sachchidanada, *et al.* (7), however, affirm the exact opposite, while Kopin (8) finds increased 5-HIAA in both groups.

No attempt has come to our knowledge to use reserpine as a means to induce 5-HIAA in order to differentiate between the schizophrenic and the non-schizophrenic. Reserpine liberates not only the brain serotonin but the entire body serotonin as well (9, 10).

This paper deals with some experiments to use reserpine induced 5-HIAA uria as well as oral tryptophane as a screening test for schizophrenia.

MATERIALS AND METHODS

Ten male schizophrenics, aged 20-40, suffering from various forms of the disease were compared with a similar group of 12 non-schizophrenic patients. A third group of schizophrenics of various ages, males and females, received only placebos.

On the first day all medication was suspended at noon and was not resumed until after the end of the experiment. The subjects received, however, each evening 200 mg. chloral hydrate to ensure sleep. Fasting was enforced from after supper until noon of the following day. On the second day, the patient was instructed to urinate at 9:00 a.m. and was given a placebo (injection or capsule). All urine was collected for 150 minutes, acidified and put into the frigidaire. On the third day the same routine was followed again. The placebo was replaced by the treatment (an intramuscular injection of 2.5 mg. Serpasil³ or a capsule, containing 100 mg. 1-tryptophane). The nature of the treatment was not known to anyone having any direct contact with the subject.

Because of the profound and lasting effect of reserpine, no inversion of the order of the treatment was attempted. For this reason, the third group of schizophrenics was added. They received placebos on both days. This was done to find out whether variations of 5-HIAA could be due to the withdrawal of the medication.

The urine samples of the second and of the third days were analyzed together for 5-HIAA content according to the method of Udenfried (12, 13) as modified by Garner

¹ This study is supported by the Canadian Ministry of Health and Welfare.

² Albert Prevost Institute, 6555 West Gouin Boulevard, Montreal, Canada.

³ We wish to thank the Ciba Company Limited of Montreal for their gift of Serpasil and the corresponding placebos, as well as Miss Fernande Bastien for her excellent technical assistance.

(14). Creatinine was determined according to standard methods(15).

RESULTS

TABLE 1

	Placebo	Reserpine	Probab. ⁵	Placebo	1-Tryptophane	Probab.
Non-schizophrenic mg. 5-HIAA/ gm. creat.	12.2 ± 2.4	20 ± 2.9	>0.05	11.6 ± 1.6	10.4 ± 1.4	<0.6
Schizophrenic mg. 5-HIAA/ gm. creat.	10.6 ± 1.5	16.2 ± 1.7	>0.05	12.3 ± 2	12.6 ± 2.2	<0.9
	Placebos	1st Day	2nd Day			Probab.
Schizophrenic controls						
mg. 5-HIAA/ gm. creat.		10.6 ± 1.2	9.8 ± 1.1			<0.9

⁴ Standard error of the means.

⁵ The probabilities were calculated by means of Student's "t".

DISCUSSION AND CONCLUSIONS

Reserpine will increase the urinary 5-HIAA excretion of the schizophrenic as well as of the non-schizophrenic control. It was not deemed prudent to repeat the experiments using a higher dosage level of reserpine, as toxic side effects were observed in many of the subjects. A single dose of 100 mg. 1-tryptophane did not vary in any way the 5-HIAA uria of any of the patients nor did the withdrawal of medication.

SUMMARY

Inducing 5-hydroxy-indole-acetic aciduria by injecting reserpine and by oral tryptophane did not differentiate between schizophrenic and non-schizophrenic psychiatric patients within our experimental conditions.

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A PILOT STUDY OF L-GLUTAVITE IN HOSPITALIZED "AUTISTIC" AND "HYPERACTIVE" CHILDREN

SEYMOUR LEVEN, M.D., AND ARTHUR S. IMPASTATO, M.D.¹

Recent studies in the use of L-Glutavite on hospitalized elderly schizophrenic patients have indicated that significant improvement may be expected in their mental status and social behavior. With these patients becoming more active and interested in their environment(1, 2, 3, 4), it was felt that a pilot study was indicated to see whether L-Glutavite was of any therapeutic value in "autistic" and/or "hyperactive" children hospitalized at Kings Park State Hospital.

L-Glutavite is a mixture of mono-sodium L-Glutavite plus vitamins and minerals. Upon absorption the L-Glutavite is presumed to appear in the blood as glutamic acid, the main ingredient affecting cerebral metabolism, while the vitamins function in the process as coenzymes.

Thirty-five male children whose ages ranged from 5 to 14 years were selected for the study. Sixteen were "autistic" and 19 were "hyperactive." All were in good physical condition and none was suffering from congenital or organic disease. Complete psychiatric and psychological as well as EEG examinations were performed on each child prior to the study and all forms of therapy and other medication were discontinued.

A simplified behavioristic rating scale was used and each of the children selected was evaluated by 4 different trained observers prior to treatment and bi-weekly thereafter for 6 weeks. Unknown to these observers (ward nurse, school teacher, occupational and recreational therapists) was the fact that only 10 of the "hyperactive" and 8 of the "autistic" children received the L-

Glutavite while the others received the placebo, tomato juice. A standardized dose of one teaspoon of L-Glutavite per 4 ounces of tomato juice was given.

RESULTS

In the group of 10 "hyperactive" children receiving L-Glutavite 2 showed appreciable overall improvement while another 2 only minimal improvement. In the group of 9 "hyperactive" children receiving the placebo 2 showed the same degree of overall improvement and only 1 showed minimal results.

In the group of 8 "autistic" children receiving L-Glutavite none showed any appreciable degree of improvement and only 2 achieved minimal results. Of the 8 "autistic" children receiving the placebo one did improve considerably.

SUMMARY

Of 18 children receiving L-Glutavite in the blind study only 2 showed appreciable improvement in their behavior. Of the 17 children receiving the placebo 3 displayed the same degree of improvement. L-Glutavite in the dose administered during this 6-week study did not cause any marked improvement in "hyperactive" or "autistic" children.

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A CLINICAL TRIAL OF CHLORPROTHIXINE

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AND L. GOLDSCHMIDT, Ph.D.¹

Chlorprothixine (Taractan)³ is a drug recommended for treatment of a variety of mental disorders. A clinical and toxicological study was undertaken prior to marketing of the drug.

It was planned to give chlorprothixine in dosage up to 100 mg. daily to acutely ill newly admitted patients and in dosage of 200 mg. and over a day to chronically ill patients with symptoms of depression or withdrawal. Experience soon showed that low dosage was not effective, and the drug was then given to acutely ill patients in dosage of 50 mg. t.i.d. for 1 week, 100 mg. t.i.d. for 2 weeks, followed by 150 mg. t.i.d. for 3 weeks. At the end of this period if the patient was unimproved 200 mg. was given t.i.d., and reduced to 100 mg. t.i.d. in event of improvement. Determinations on blood were performed weekly for 3 weeks and then bi-weekly, as follows: total white blood count, differential white blood count, hematocrit, alkaline phosphatase, and non-protein nitrogen. Determinations on urine were made at the same frequency, as follows: specific gravity, albumin, glucose, microscopic studies.

Clinical evaluation was done by super-

vising psychiatrists, according to symptom complexes. Excitement was the most frequently occurring symptom complex including aggression and combativeness. Delusions and hallucinations were next most frequent, then withdrawal and autism, dissociation and motivational confusion, and depression. Table 1 shows the study population by sex, by age decades and by diagnostic designation.

RESULTS

Forty-seven patients (33%) improved, 60 (42%) did not change and 37 (25%) showed worsening of the major symptom complex. The only symptom complex which showed no change was hallucination and delusion. There were only two instances of leukopenia and one instance of increase in alkaline phosphatase. Upon withdrawal of the drug these disappeared after 2 weeks, and their relation to the drug therapy is uncertain. The drug was well tolerated by patients. The most frequent side effects were somnolence and tachycardia. There were no extrapyramidal symptoms, even at high dosage.

Our clinical observations indicate that chlorprothixine is an effective sedative. Its tranquilizing effect is considerably less than that of chlorpromazine, and it did not alter delusions or hallucinations. An antidepressant effect of the drug was not apparent, even at high dosage.

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² Creedmoor State Hospital.

³ Acknowledgement is made to Hoffmann-La Roche, Inc., for supplies of the drug and grant-in-aid for the study.

TABLE 1

Characteristics of 144 Psychiatric Patients Treated with Chlorprothixine

SEX M F	NUMBER OF PATIENTS BY DECADE OF AGE						DIAGNOSTIC CATEGORIES						
	15-30	30-40	40-50	50-60	60-70	70-80	Manic- depressive, depressed	Acute and Chronic Schizo- phrenia	Invol- utional Psy- chosis	Psy- chosis with Alco- holism	Senile Psy- chosis	Cerebral Arterio- sclerosis	Other
68 76	23	30	27	23	23	18	10	91	10	4	8	8	13

CASE REPORTS

TOLUENE SNIFFING PRODUCING CEREBELLAR DEGENERATION

DANIEL A. GRABSKI, M.D.¹

Despite the wide-spread use of tobacco, the intake of intoxicants via the respiratory tract through inhalation, or sniffing, is infrequently reported. Modern industrial technology has produced a wide variety of solvents, the volatility of which makes them readily available to inhalation. The following case will demonstrate the consequences in one case.

H.J.B. was hospitalized for the first time in January 1954, at the age of 21. He stated that approximately 2 years earlier, while working in an aircraft factory he was assigned a job cleaning items in a solvent he identified as Toluene. While working over a large container of the substance he had inhaled its vapors, liked their smell, and the "dizzy effect" or euphoria he experienced. This led to experimentation and he inhaled the vapors of various other solvents. He claimed gasoline had a very euphoric effect and would use this when Toluene was unavailable. Isopropyl alcohol was without effect. Trichlorethylene and methylethylketone smelled bad and were rejected. He solved his Toluene supply problems by purchasing the chemically pure (CP) substance in gallon lots from a paint store when he could no longer filch Toluene of analytic reagent purity from the aircraft company's laboratory (he was quite concerned about using only a pure substance). He continued to use this drug by inhalation until he was hospitalized. At this time his mother stated the patient would frequently spend time at home clutching a rag he had soaked in Toluene to his face inhaling its vapors. This bizarre behavior did not cause family concern until mental confusion, dizziness, inappropriate laughter, staring into space and threatening suicide made hospitalization necessary. Physical examination on first admission revealed evidence of cerebellar disease, as well as hepatomegaly and impaired liver function. Psychological testing was more compatible with a schizophrenic disorder than of

organic brain disease, although the overall clinical impression was that of a primary personality disorder with secondary toxic symptoms produced by Toluene inhalation.

The patient has been hospitalized 3 times since under essentially similar circumstances. On his most recent admission, in 1958, neurological examination revealed the following:

Orientation, memory and intellectual functioning were within normal range.

Olfactory sense intact.

Eyes showed only slight nonpersistant nystagmoid movement on lateral gaze. Fundi: normal.

Cranial nerves, 5,7,9,11,12, no evidence of abnormality.

Deep tendon reflexes, of moderate intensity, equal bilaterally.

Posterior column signs, toe position and vibratory sense intact. Bilateral equivocal Babinski sign with negative Gordon, Oppenheim, and Chaddock.

Muscle tone and muscle bulk within normal limits.

Gait: classical titubating gait with redundant movements characteristic of cerebellar disease involving the lateral lobes.

Cerebellar signs: intention tremor of both hands and feet, more pronounced in the hands. Mild adiadochokinesis in the upper extremity; rebound phenomena in both arms and legs. A drift phenomenon was not demonstrated.

Superficial reflexes: abdominals equal bilaterally, cremasterics absent.

Sensory examination: two point discrimination, pain discrimination within normal limits.

The possibility of multiple sclerosis or a familial cerebellar disease was considered and excluded following evaluation of the family members, and the absence of any eye difficulties at any time in this patient. The final impression was of a degenerative lesion of the lateral cerebellar lobes due to prolonged inhalation of Toluene vapors.

Toluene is a highly toxic, aromatic solvent used extensively in industry and readily available, although fortunately rarely used, for inhalation purposes. The chemical

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formula is $C_6H_4CH_3$, a methylated benzene ring. The substance is available under the commercial name of Toluene, Toluol, or Methylbenzene. Its toxicity rating is 4, which is considered very toxic; 50 to 500 mg. per kg., or 4 to 30 ozs., for a 70 kg. man are considered a fatal dose(1). The toxicity is similar to a related group of aromatic hydrocarbon solvents such as benzine, cumene, and mesitylene. These substances are commercially found as contaminants of one another and are widely used in industry. They may be found around the home in paint removers, degreasing cleaners, lacquers, insecticides, pesticides, and plastic cements. All of these aromatic hydrocarbons produce basically similar types of reactions, namely, local irritation, central nervous excitation and depression, and bone marrow inhibition.

Psychiatrists will undoubtedly see more

and more patients who have sought refuge from their personality disturbances through the inhalation of aromatic or aliphatic solvents(2, 3) and may overlook the serious toxic effect of these drugs. Cerebellar signs, in particular, are easily overlooked. Tremors may be passed off by patient, family, and even examining physician, as "nervousness." Toluene can produce irreversible cerebellar degeneration among its other toxic effects and the cessation of its inhalation must be considered emergent in the psychiatric treatment of this type of addiction.

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THE PRESIDENT'S PAGE

DO WE HAVE A POSITION ?

The aphorism that nothing that is human is foreign to psychiatry is a commonplace. Occasionally one encounters a more caustic corollary to the effect that it is no great challenge to a gentleman of the press to elicit a psychiatric opinion on virtually anything from the foibles of the Roman emperors to the frustrations of the suburban housewife.

Be that as it may, however prone to public pronouncement the individual psychiatrist may be, one detects no such alacrity among psychiatrists to express themselves collectively through their Association.

A major responsibility of our Association (and of other professional associations in their fields) is to counsel the community on matters that fall within our professional competence. That is one good reason why the community confers a special status on us as a non-profit, tax-exempt, educational organization.

We accept and discharge that responsibility in several positive ways. We publish standards for psychiatric facilities. We alert the public to dangers in the irresponsible use of hypnosis and tranquilizers. We take official positions on the confidentiality of the doctor-patient relationship and on psychotherapy in medical practice. Less officially, but probably even more influentially, we perform our counseling function by setting up boards and committees to screen what shall appear in our reports and journals. Beyond that we have a staff facility which responds to thousands of requests for information and opinion on our stationery.

We also render counsel by refusal to take a position, by failure to respond, since negation is quite as subject to interpretation as affirmation. It is possible that we rely too heavily on this device. To the extent that failure to respond is the product of necessity or thoughtful intent, it may indeed be the only or the wisest course of action. The bothersome question is whether our use of the device is the product of necessity or thoughtful intent or oftentimes the product of

something less salutary.

This is not to suggest that collective psychiatry should burst into print with official opinion on the deleterious effects of television on children, or the Berlin crisis. Still, a debater's brief is easily mustered to the effect that we, the Association, have been excessively timid in delineating the area of competence in which we owe a rendering of counsel to the community.

Every psychiatrist to his own illustrations.

It seems a little strange to this writer, for example, that our Association has no opinion on the Kefauver-Celler Bill. How many members know what it is ? In a sentence it would restrict the production, marketing and patenting of drugs until their safety and effectiveness is fully validated. The American Medical Association and pharmaceutical manufacturers oppose the bill in the general conviction that it would lead to undesirable Federal controls.

Surely here is an issue of deep and special concern to us. We use a lot of drugs. Who among us had not expressed indignation and shock at the excessive and unproven claims attendant on advertising the birth of a new tranquilizer ? Shall we let it be assumed that as physicians we "go along" with the position of organized medicine ? Perhaps we do. But it is possible that collective psychiatry harbors a conviction that present agencies and techniques for drug evaluation, marketing, and promotion are inadequate and that more rigorous measures are indicated. If so, should we not offer our counsel to the community on the Kefauver-Celler issue ?

Take the Kerr-Mills bill which proposes a Federal matching grant program to encourage state expenditures on medical care for needy aged people. The Kennedy administration has a counter proposal that would eliminate any means test and make medical care for the aged available to everyone eligible under the Social Security system. How do we, the psychiatrists, feel about it ? And especially, what would we say if neither proposal provided any bene-

fits for otherwise eligible aged but mentally ill persons? Shall we allow others to speak for us on this issue, too?

So much for just two examples. It almost seems that an issue must actually invade the area of psychiatric clinical practice if it is to stimulate a reaction from psychiatrists collectively. Such issues as the drug problem and medical care to the aged are apparently considered a little too peripheral to capture our collective concern. So we fail to respond with counsel, even though it is manifest that any resolution of these issues will drastically affect our clinical practices.

Our Association, through its Council, Committees, and Staff, has ample facilities that could be used more intensively for the transmission of counsel to the community. Should we not proceed to use them to this end?

Many World War II veterans among us will recall the old military quip, "Well, let's raise the flag, boys, and see who salutes." These comments are in the nature of such a flag raising. Will anybody salute?

WALTER E. BARTON, M.D.,
President.

PARITY IN NURSING EDUCATION

The theme that emerged from an early Mental Hospital Institute was the "Therapeutic Community". In a discussion on Nursing at a subsequent Institute it was noted that the number of professional nurses employed in mental hospitals had decreased almost to the vanishing point and that the only state systems which could obtain any significant number of professional nurses were those which provided undergraduate training programs. The available statistics indicate that the situation has not improved and one wonders whether there has been much effort to improve it. Albee states in passing "... no nursing leader has suggested a return to the practice of training nurses in schools located in mental hospitals..." However nursing leaders generally are very enthusiastic about providing a period of experience and formal instruction in psychiatric nursing for undergraduates in the general nursing course.¹ When the question of providing schools of nursing in mental hospitals is raised the answer is that they would be acceptable if they could meet the standards. This seems fair enough if it did not always seem to carry with it the implication that, of course, they could not really be expected to meet the standards.

The attitude of mental hospital administrators is a little difficult to determine. Some maintain that they can prepare other categories of personnel who will be better qualified to function as key personnel in the "therapeutic community" than is the professional nurse. Can we accept this opinion at its face value or is it a tacit acceptance of the impossibility of providing in mental hospitals a high standard of basic training for professional nurses or of obtaining professional nurses trained elsewhere?

The question may well be raised "why make so much of the professional nurse, or why confine the term to the general-trained

registered nurse?" Some jurisdictions have raised mental hospital nurses without general training to the professional level but the sponsors are quick to assert that these nurses get as satisfactory training in the physical care of the patient as the general nurse. Nevertheless they cannot get recognition as having equal competence to provide physical nursing care.

Theoretically nursing educators agree that the nurse should be able to apply her skills to the care of the "whole person". Theoretically the basic training of the psychiatric nurse and of the general nurse should be very similar. This cannot possibly be provided in social structures as different as the general hospital and the mental hospital. However there seems to be a good possibility that in the future general hospitals and mental hospitals will resemble each other more closely. In such an event it would be expected that the general nurse and the psychiatric nurse would develop similar competence to meet the needs of the patient.

In Ontario we have had the collaboration of the Nursing Branch of the Department of Health in redesigning the course for undergraduate nurses in 3 mental hospitals. (Essentially the function of the Nursing Branch is to set standards for and to inspect schools of nursing throughout the province.)

In this collaborative effort particular attention has been devoted to evolving more effective methods of studying the "whole person" and his interaction with his environment. The basic course which has been designed for the purpose embodies the elements of the physical and social sciences essential to the development of skills in nursing and should be applicable equally to training for general and mental hospital nursing.

The basic course of 9 months is taken in the "home" school and is followed by 15 months affiliation in a general and a children's hospital. Although, since 1937, at least one year's affiliation in grade A gen-

¹ In Ontario the mental hospitals provide 3 month affiliation courses for about 1,800 students from general hospital schools of nursing each year.

eral hospitals has been provided for undergraduates training in mental hospitals, the new relationships that have been developed are providing for better integration of the students in the affiliate hospitals.

The first 2 years, including affiliation, are essentially academic. The third year, taken in the "home" school, is devoted to psychiatric nursing in the mental hospital and its community services.

The student who successfully completes the 3 years is eligible to sit the examination for the R.N. As an R.N. she is able to qualify for employment as a general nurse in any type of hospital or in private practice. At the same time she has the advantage of much more extensive training in psychiatric nursing than is provided by the usual psychiatric affiliation.

With the beginning of the new course stipends were increased, bursaries made available and recruiting drives were carried out by each school of nursing in its own hospital area. These efforts have been rewarded by a great increase in the number and quality of applicants, and the enrolment, after more careful selection, has more than doubled.

The fear is sometimes expressed that training that will fit nurses to obtain employment in general nursing will only encourage the nurse to leave the mental hospital. This is an expression of distrust of our ability to make employment in the mental hospital interesting and congenial. This is a risk that we are prepared to take because previous experience with general nurse training has been reassuring.

The efforts outlined above can only be justified on the assumptions that the nurse's role is still relevant to the care of sick people, that the nurse is the doctor's most appropriate assistant and that the nurse with combined training is likely to be more competent in the care of patients and particularly in a responsible supervisory role. These assumptions are made on the condition that programs of nurse training will ensure that the nurse is prepared to use the interpersonal skills which are relevant to her function in the therapeutic process.

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Toronto, Ont.

PROPHETIC

The world is getting democratic and socialistic faster and faster and out of it all a new civilization will emerge. Will it ever simplify and solidify itself again? Or will it get more and more like an infinite pack of firecrackers exploding?

—WILLIAM JAMES (1908)

WORDS

Short words are best and the old words when short are best of all.

—CHURCHILL

CORRESPONDENCE

MONISM AND DUALISM

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : Dr. Levin's article on Monism and Dualism in the July issue of the *Journal* will leave those of us who are interested in philosophy utterly bewildered. He tries to prove Dr. Bailey's "mistake" by discussing the views of Hughlings Jackson, whom he represents as a "monist." He quotes the following passages :

The doctrine I hold is : first, that states of consciousness (or, synonymously, states of mind) are utterly different from nervous states ; second, that the two things occur together, that for every mental state there is a correlative nervous state ; third, that, although the two things occur in parallelism, there is no interference of one with the other. This may be called the doctrine of Concomitance.

This view, of course, was not introduced by Jackson, but is the well-known philosophy of Leibnitz. I am sure that Jackson expected his readers to realize this because Leibnitz was well known in Jackson's time. It is the strongest expression of dualism ever proposed. Mind and Matter (Leibnitz thought) are concomitant, but independent, like two clocks, one of which has hands to show the hour, the other a gong to ring the hour. If they are synchronous, a casual observer may believe that the fact that the gong of one clock rings when the hands on the other clock show the full hour must be based on an "interaction" between the clocks ; actually, they are merely synchronous. The Lord has created the world so perfect that this synchronism is established forever. Jackson's only reservation was that being a physician, not a philosopher, he would not have to say anything about the reason for the synchronism, and did not need Leibnitz's religious explanation.

Having quoted Jackson's belief in the theory of Parallelism, Dr. Levin continues : "To put the matter into other words, mental states are but the epiphenomena of physical

states in the brain." This, however, is not "putting the matter into other words" but rather presenting an entirely different, though equally well-known theory, the theory of the mind as epiphenomenon. It is difficult to imagine that someone could identify or combine these two, for Parallelism is dualistic ; it needs two parallel concepts—there are no "one-piece parallels." The theory of the epiphenomenon (originating with the ancient atomist, Democrit, etc.) is monistic. Here the assumption is that there is *only* Matter ; what appears as Mind is nothing more but like the flame which appears as an epiphenomenon when wood oxidizes ; a spectacular, but in itself non-existing, meaningless epiphenomenon.

While I was still pondering which of these views Dr. Levin accepts, or how he can combine them both into one theory, I was suddenly finding myself confronted with a third, again different theory. "Psychic event *can* influence behavior" we are suddenly told. He presents a "Theory of Interaction." Why it should be important whether interaction is immediate, or "mediated by cerebral mechanism" (or maybe by pineal mechanism, as the famous dualist Descartes thought), is a bit difficult to understand. It's interaction and dualism in any case. If *one* can influence the *other*, we are dealing with two phenomena, and so have now switched back to dualism and to Dr. Bailey's claim of the implied dualism in psychodynamics, which Dr. Levin tries to deny.

What is that "Mind" which can influence the body ? Is it Plato's substantial Mind ? Kant's transcendental Mind ? Dr. Levin does not tell us ; and his example of the child who was scared by a dog and shows behavioral changes later on is not illuminating, either. What happened when the child was "frightened by a dog ?" A physiological fright reaction with body influencing mind ? Or maybe a psychological trauma with mind influencing body ? Concomi-

tance? Epiphenomena? Interaction? Which one is it?

But must we psychiatrists continue to fight each other's philosophy? Is there none which provides a basis suitable for all? Many modern scientists (including Albert Einstein) find the philosophy of Spinoza strangely modern. Benedict Spinoza, the heretic philosopher, believed that there is only *One* world. But it is like an optical lense with two surfaces, one convex, and the other concave. These may appear like two different, independent phenomena to an observer, for he sees nothing else. But actually these two surfaces are indivisibly

One. And so (Spinoza feels) *Reality* is only *One*, but offers two aspects: Body and Mind, Matter and Spirit. Each change of this reality will affect both aspects (though not necessarily in the same degree). Here we have neither independent concomitance, nor an epiphenomenon, nor an interaction. But an identity of the psychobiological organism, which merely appears to us human beings as a dual phenomenon. Would not such a philosophy, I wonder, suit both, Dr. Bailey as well as Dr. Levin?

Hans S. Unger, M.D.,
Buffalo, N. Y.

REPLY TO THE FOREGOING

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY:

SIR: Prudence warns me not to engage Dr. Unger in a dispute over the meaning of monism and dualism, as his competence in philosophy is obviously greater than mine. The object of my article was to invite attention to some concepts, mainly those of Hughlings Jackson, which appear to be of value to the psychiatrist and the student of behavior. I stand by the substance of the article, but will entertain criticism as to the propriety of the philosophical terms I have used.

Monism and dualism have many different meanings. I use the terms in the sense of Lord Cohen, who wrote, "The ultimate goal of science is a universal monism." In the same sense the chemist Wilhelm Ostwald, as reported by Heinrich Klüver, declared at the turn of the century, "I open the monistic century." In this usage the monist, it seems to me, is he who believes that all behavior (including mentation, which is internal be-

havior) is the product of cerebral activity. Psychic activity is "concomitant" with cerebral activity.

Dr. Unger says that Jackson's doctrine of concomitance is "the strongest expression of dualism ever proposed." This is hard to accept (in the sense of Lord Cohen and Ostwald). Jackson was a monist and nothing else. The exponent of dualism was Laycock, as shown by the citations given in my article.

Mind and brain are two things, and *dual* means two, but this is a mere accident of semantics, and not a reason to designate psychophysical parallelism as dualism.

A minor point: I do not claim that Jackson introduced the doctrine of concomitance, nor did he. Jackson named a dozen earlier writers (including Leibnitz) who had proposed essentially similar ideas. (See the *Selected Writings*, volume II, page 84.)

Max Levin, M.D.,
New York, N. Y.

NEWS AND NOTES

FELLOWSHIPS, NEUROPHYSIOLOGY, NEUROANATOMY.—New York University Medical Center is offering a 3-months Training Fellowship with stipend of about \$1,000 in neuroanatomy and neurophysiology, beginning March 1, 1962. Candidates holding the M.D. or Ph.D. degree and interested in teaching or research in these subjects are eligible. Applications should be in by January 1, 1962. For information apply to: Dr. Louis Hausman, department of anatomy, New York University School of Medicine, 550 First Ave., New York 16, N. Y.

LINDAUER PSYCHOTHERAPIEWOCHE.—The 12th Lindau Psychotherapy-week will be held from April 30-May 5, 1962. The main items will be the physical symptom as psychotherapeutic problem. In 2 morning sessions the theme "Psychotherapy in Medical Institutions" will be dealt with. In afternoon sessions there will be opportunities for practical experience in the important phases of psychotherapy. Related exercises will be dealt with during the week.

For information write to the Secretariat of the Lindauer Psychotherapiewoche, München 2, Dienerstr. 17.

BIRTH CONTROL.—*New Medical Materia*, Sept. 1961, publishes the results of that journal's latest survey in which several thousand doctors participated: 44.1% of obstetricians and gynecologists and 25.3% of general practitioners give birth control advice routinely; 50.7% of all doctors give such advice on request of patients; only 17.7% of all doctors reported that they never gave such advice.

The returns published were not broken down as between Catholic and non-Catholic doctors.

U. S. PUBLIC HEALTH SERVICE SUPPORT OF COMMUNITY MENTAL HEALTH SERVICES.—Funds budgeted for this purpose during 1961 totalled \$91 million, an increase of about 100% since 1957.

An analysis of State legislative actions made by the National Institute of Mental Health reveals that during the current year 8 State legislatures enacted major new legislation affecting community mental health. In one year 1960-1961, total Federal, State, and local funds budgeted in State plans for these purposes increased by 41% from \$65,000,000 to \$91,000,000. The latter figure included Federal funds amounting to \$6,000,000—less than 7% of the total. Ten years ago, Federal funds accounted for 27% of total budgeted funds.

Under provisions of the National Mental Health Act passed in 1946, all the States and Territories now share in Federal funds which are allocated on the basis of the State's population and financial need. Under regulations all States must match every dollar of Federal aid with one State dollar.

ACADEMY OF PSYCHOANALYSIS OFFICERS AND TRUSTEES, 1961-1962.—*President*, Roy R. Grinker, Sr., M.D., Chicago, Ill.; *President-Elect*, Sandor Rado, M.D., New York, N. Y.; *Past-President*, Frances S. Arkin, M.D., New York, N. Y.; *Secretary*, Joseph H. Merin, M.D., New York, N. Y.; *Treasurer*, John L. Schimel, M.D., New York, N. Y.; *Trustees*, Nathan W. Ackerman, M.D., Irving Bieber, M.D., Ralph M. Crowley, M.D., Marianne H. Eckardt, M.D., Don D. Jackson, M.D., Janet Mack Rioch, M.D., May E. Romm, M.D., Leon Salzman, M.D.

The mid-winter meeting of the Academy will be held at the Hotel Commodore, New York City, Dec. 9-10, 1961. The main subject of the 2-day meeting will be Psychoanalytic Education.

DR. GITELSON HONORED.—At the last Congress of the International Psycho-Analytic Association in Edinburgh, Scotland, in July 1961, Dr. Maxwell Gitelson of Chicago was elected President. In this office he is successor to such eminent men as Ernest Jones, Jung and Abraham.

At the present time Dr. Gitelson has tak-

en temporary leave from his practice to accept the visiting Sloan Professorship at the Menninger Clinic.

DIVISIONAL MEETING N. Y. STATE BRANCHES APA.—This biennial meeting will be held Nov. 10-12, 1961, at the Hotel New Yorker, New York City.

The theme will be a multi-disciplinary report of studies on human behavior by scientists, philosophers, and psychiatrists. Among topics to be discussed will be The Biochemistry of Behavior, Genetics in Psychiatry, Physiological Basis of Behavior, and Animal Behavior.

Six scientific sessions and 4 panel meetings are planned for the 3-day meeting.

DR. CLOUTIER TO HEAD WORLD FEDERATION FOR MENTAL HEALTH.—Dr. François Cloutier, F.R.C.P. and a member of the American Psychiatric Association and the Canadian Psychiatric Association, likewise the Association of French speaking Physicians, has been appointed Director of the World Federation for Mental Health succeeding Dr. J. R. Rees of London.

Dr. Cloutier will take office in January 1962. He is a resident of Montreal.

DR. KETY SALMON LECTURER, 1961.—The annual Thomas William Salmon Lectures

will be delivered on Monday, December 4, at the New York Academy of Medicine, 2 East 103rd Street, New York, at 4:30 P.M. and 8:30 P.M.

The 1961 lecturer will be Seymour S. Kety, M.D., Henry Phipps Professor of Psychiatry at the Johns Hopkins Medical School. Dr. Kety will speak on "The Implications of Biochemistry for Psychiatry," discussing in the first lecture "The Basic Chemistry of the Nervous System," and in the second "The Application of Biochemistry to Problems of Psychology and Psychiatry."

The Salmon Lectures, which have been given since 1932, are under the aegis of the Salmon Committee on Psychiatry and Mental Hygiene. The committee is appointed by the Council of the New York Academy of Medicine. The Lectures are published later in book form.

ISRAEL S. WECHSLER LECTURE.—Dr. Oliver H. Lowry, Professor and Director of the Department of Pharmacology, Washington University School of Medicine, St. Louis, Mo., will deliver the seventh annual Israel S. Wechsler Lecture on December 8, 1961 at 8:30 P.M. in the Blumenthal Auditorium of the Mount Sinai Hospital, New York City.

Dr. Lowry's lecture is entitled: "Challenges in the Study of Brain Chemistry."

OUTGROWING WAR

The human record began with warfare, which will remain a dominant occupation until mankind attains a spiritual level higher than that of any of the gods he has feared and worshipped.

—ARISTOPHILUS

GODS

As our knowledge of the gods increases, they recede; as we penetrate farther, they eventually vanish; only then can we appreciate them.

—ARISTOPHILUS

ENES AND PROGNOSIS

Consider the work of God: for who can make that straight which He hath made crooked?

BOOK REVIEWS

ACTION FOR MENTAL HEALTH. The Final Report of the Joint Commission on Mental Illness and Health. (New York: Basic Books, Inc., 1961, pp. 338. \$6.75.)

Billed as a "Program for Meeting the National Emergency," the report provides much that is useful for future programming but makes its greatest contribution in bringing together the consensus of leading authorities, providing material on certain studies carried out for its purposes, and broadening the vision of mental health planning toward an appreciation of basic conditions which underlie some of the formidable problems of today.

This volume is, in part, a summation of the work of the members of the commission, the staff, and editors, task forces, advising committees and consultants who, guided by the Committee on Studies, finally produced 10 volumes. The titles of these suggest the scope and depth of the total effort. These are: *Current Concepts of Positive Mental Health* (Marie Jahoda); *Economics of Mental Illness* (Rashi Fein); *Mental Health Manpower Trends* (Albee); *Americans View their Mental Health* (Gurin, Verhoff, Feld); *Community Resources in Mental Health* (Robinson, DeMarche, Waggle); and *Epidemiology and Mental Illness* (Plunkett, Gordon). These are now available from Basic Books, Inc., NYC. In preparation: *The Role of Schools in Mental Health* (Allin Smith, Goethals); *the Churches and Mental Health* (McCann); *New Perspectives on Mental Patient Care* (Schwartz, Schwartz, Field, Mishler, Olshansky, Pitts, Rappaport, Vaughan); and *Research Resources in Mental Health* (Soskin). Recommendations are summarized in the beginning and also discussed in the final chapter. They contain 4 main headings:

I. *Pursuit of Knowledge*: An important contribution is the philosophy "that science and education are resources like natural resources—and that they deserve conservation through intelligent use and protection and adequate support—period." "What is most needed (in Research) is a balanced portfolio," with emphasis on basic, long-term, diversified support of persons and ideas assuming the necessary calculated risk. The need is for capital support for careers—careers made attractive enough to hold young scientists and offering assistance to eligible educational institutions. The report endorses the Jones Report (U. S. Senate Committee on Appropriations, 1960). Since the

volume on Research is not yet out, no comment can be made on the justification for these points of view. They appear, however, to coincide with commonly accepted ideas.

II. *Better Use of Present Knowledge and Experience*: (A) *Manpower*—A major contribution is made toward recognition of the deficits in the manpower pool from which mental health personnel are drawn. (B) *Relations of Mental Health Manpower to the Whole Field of Education and Career Choice*—but solutions to what are presented as insolvable shortages do not differ from ideas which have been commonly mentioned for sometime and these are not specifically presented.

There is reason to believe that somewhat more optimism is justified in the light of developments in social psychiatry and the shift in methodology which appears to be in the making. The recommendation for income tax deduction for educational expenses is an interesting approach towards increasing the responsibility of individuals for general education in their own families. The comments on the uses of volunteer services and the place of churches in mental health are useful but leave a sense of imbalance since college students are not often available and use of volunteers is increasing fast in other ways. Useful sections include: services to mentally troubled people (defined as mentally ill in early stages), immediate care, intensive treatment of acutely ill, and care of chronic patients gives a review of a variety of approaches. Suggestions as to the use of large state hospitals are controversial and impractical but may aid progress because of their provocative nature. Sections on after-care and rehabilitation services are especially good, but it could be added that Day Hospitals, etc. are equally valuable in diverting a patient from entering a hospital or assisting him after he leaves. Again, the volume on "New Perspectives on Mental Patient Care" is not yet available and we do not know how well the justifications are developed for the specific recommendations.

III. *Public Information on Mental Illness*: Lays the basis for a sound program for citizen groups.

IV. *Cost*: The major thesis is: "Expenditures for public mental patient services should be doubled in the next 5 years—and tripled in the next 10." The principal recommendation is that states and federal government should share the cost of state and local mental patient

services with federal government providing up to one-third of state costs. This is not as radical as it sounds considering the growth in public assistance and social security funds emanating from the federal government, but it is another large step towards federalization of local services. Emphasis in increased services and a sound standard of care and treatment would have been more valuable.

The commission report neglects to make any mention of the formidable array of individual, private, and voluntary hospital services which already furnish an appreciable amount of the psychiatric services in the nation. Therefore, the statement, "Our proposal is the first one in American History that attempts to encompass the total problem of public support of mental health services and to make minimum standards of adequate care financially possible" must be criticized for its assumption that public support shall encompass the total problem. This is both contrary to the present situation and contrary to American tradition. For example, in one state last year, 25,000 admissions to state hospitals occurred while, at the same time, 22,000 admissions were received in non-governmental, licensed mental institutions and 24,000 admissions in psychiatric units of general hospitals, some of which were voluntary hospitals and some of which were county hospitals. The commission might have made an equally radical recommendation in the opposite direction. That is, that responsibility for the cost of psychiatric treatment services be shifted from the current 65% tax support and 35% non-tax support to a 50-50 division of responsibility between individual, private and voluntary resources, including prepaid insurance on the one hand, and federal, state, county, and municipal tax resources on the other (the California Plan). The commission also overlooked the opportunity to demand parity for persons with mental disorders in terms of equal sharing of federal monies from public assistance, total disability and old age medical care (Kerr-Mills Bill) as are received by persons suffering from other diseases.

A glaring omission is the lack of reference to mental retardation which is the second in the list of 7 major categories of mental disorders named in the official nomenclature of the A.M.A. and APA. The Cinderella of mental disorders is thus delayed another eon of time in finding her golden slipper. The fact that NIMH had made a sizable grant to the National Association for Retarded Children to study retardation does not justify the omission. Periodic reference on how subject matter treated in this comprehensive report also applied to mental re-

tardation would have been easy and quite helpful.

The staff, particularly the Director, Dr. Jack Ewalt, and Mr. Greer Williams, who is responsible for its clarity, punch, and forceful diction, deserve great credit and the thanks of the nation. In spite of some omissions, this volume and all 10 volumes are strongly recommended for careful reading and study.

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THE NEUROCHEMISTRY OF NUCLEOTIDES AND AMINO ACIDS. A Symposium of the Section on Neurochemistry, American Academy of Neurology. Edited by *Roscoe O. Brady* and *Donald B. Tower*. (New York: John Wiley & Sons, Inc., 1960, pp. 292. \$10.00.)

For a long time, carbohydrate metabolism has occupied the center of the stage in neurochemistry but interest is now focussing more and more on the metabolism of nitrogenous and lipid substances. The present volume is a record of the transactions at a symposium organized by the Section on Neurochemistry of the American Academy of Neurology, held in April, 1958.

The book's first part is mainly devoted to an account of the acid-soluble nucleotides and their coenzyme functions, most of them applying to nervous and non-nervous tissue alike. Topics of neurochemical interest include the function and occurrence of guanine nucleotides in brain, the role of cytidine nucleotides in the biosynthesis of phosphatides and of uridine nucleotides in the biosynthesis of cerebroside, and the neurological effects of the acetylpyridine analogue of nicotinamide dinucleotide. The last chapter of this section, misleadingly entitled "Neurochemistry of Polynucleotides" is for the most part a study of the *in vitro* interaction of nucleic acids and related polymers with a fluorescent dye. Important though its implications may be, it seems somewhat out of place. Only passing reference is made to the work of Caspersson; that of Hyden or Edström is not mentioned at all although it offers perhaps the richest promise of linking polynucleotide metabolism to neural function.

The second part of the book deals with selected aspects of the neurochemistry of amino acids and their derivatives. Neurohormones, monoamine oxidase activity and phenylketonuria are briefly surveyed. The metabolism and possible function of γ -aminobutyric acid in the brain and the microdistribution of the principal enzymes responsible for its formation and breakdown are expertly reviewed. Asparagine

and glutamine are the subjects of another detailed discussion. In the final chapter, experiments bearing on the metabolism and turnover of brain proteins are reported.

The formal papers are followed by discussions. In a final summing-up, the editors fill in some gaps, take stock of the present position and assess the outlook for future research.

The contributions are, on the whole, well-written, concise and competent. They provide a useful introduction to the field.

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RECENT ADVANCES IN BIOLOGICAL PSYCHIATRY.
Vol. III. Ed. by *Joseph Wortis, M.D.* (New York and London : Grune & Stratton, 1961, pp. 241, illus., \$9.75.)

In his foreword, Editor Wortis speaks of the origin of the Society of Biological Psychiatry in 1947 and its purpose to give fresh emphasis to "the neural, the neurologic, the physical, the physiologic side of psychiatry—at the time when psychological, and especially psychoanalytic, aspects of psychiatry were being so strongly emphasized that the physical basis of mind was often neglected or forgotten." Membership in the Society "has always been limited to those who have demonstrated their capacity for experimental work."

The present volume contains the scientific papers read at the 15th annual meeting of the Society in June, 1960.

Hoch, in his presidential address, reviews the great gains that biological psychiatry has made in recent decades in the treatment of many forms of mental illness, and points also to areas where more intensive work must still be done, particularly where etiology is so obscure. He sees psychological activity as part of the total biological functioning of the individual, and psychotherapy simply as a feature of the total treatment process. He points out that the pharmacological treatment of schizophrenia "is symptomatic and not etiological," and that "appraisal of the efficacy of these new treatments should be done effectively, devoid of the usual sniping that they are no good because they do not fit into certain psychodynamic preoccupations."

Hoff of Vienna delivered the Academic Address, sponsored by the Manfred Sakel Foundation. He points to the hereditary taint in both schizophrenia and manic-depressive illness, this factor being more prominent in the latter. He traces psychological symptoms of schizophrenia due to defective energy metabolism in

certain brain areas "triggered by severe somatic or more often by psychological stress."

Hoff reports: "In most countries of the world, 39 percent of all patients suffering from relapsing depression die in the following 15 years by suicide."

Treatment of schizophrenia is adjusted to the form the psychosis takes. Insulin is regarded as "a basic therapy. It opens a door through which the patient may be reached." In Vienna at least 50 coma hours are usual. Group therapy, occupational therapy and drug treatment are also fitted into the therapeutic program.

Hoff describes also the carefully planned management of the endogenous depressions, relying heavily on ECT. "The shock treatment of endogenous depression is certainly one of the most successful forms of therapy in the whole field of medicine."

Lauretta Bender reports a very careful study of the vexed question of the relationship of childhood schizophrenia and epilepsy. Meduna (1937) had postulated that those two conditions were "biologically antagonistic." Hoch (1843) had concluded from an extensive study of adult patients that schizophrenia and epilepsy, while not pathologically related, were also not antagonistic to each other, in the sense that a given case could be considered schizophrenia with "symptomatic" epilepsy or epilepsy with "symptomatic" schizophrenia.

Bender analyzed 51 childhood cases considered schizophrenic that also had convulsive disorders. Thirty of these, she concluded were "essentially organic in etiology." In none of these 30 was there a clear family history of schizophrenia (in contradistinction to cases of "true" childhood schizophrenia). The remaining 21 cases showed either "typical epilepsy with schizophrenia" or were "typically schizophrenic" with atypical convulsive symptoms which did not yield to drugs normally effective in fits. Bender's findings were therefore essentially in agreement with those of Hoch 17 years earlier.

The fact that 68 research workers are represented in this book, either by original studies or in the discussion of the papers, is evidence of the expanding interest in the biologic basis of mental disorders and the fruitfulness of such studies as here described.

C.B.F.

THE SOCIAL EPIDEMIOLOGY OF MENTAL DISORDERS. By *E. Garfily Jaco.* (New York : Russell Sage Foundation, 1960, pp. 228. \$3.50.)

The author presents a study made in Texas

to check the reliability of, or add to, generally accepted concepts regarding demographic, ecological, social and cultural factors in mental disorders. In spite of most careful planning, execution and analysis, inconsistencies in the various racial, sex, age, geographic, educational, occupational, marital, religious and socioeconomic groups prevented drawing general conclusions regarding causal relationships in psychoses. Nevertheless, this is a very valuable report because it asks fundamental questions, emphasizes the need for answers, and provides a basis for further studies which might enhance our understanding of mental disease. The bibliography is extensive, the index complete, the format and printing of the narrative, tables and reproductions of high order. The report is to be highly recommended to all concerned with mental disorders.

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MEDICAL, SURGICAL AND GYNAECOLOGICAL COMPLICATIONS OF PREGNANCY. By The Staff of the Mount Sinai Hospital, New York City. Edited by Alan F. Guttmacher, M.D., and Joseph I. Rovinsky, M.D. (Baltimore: The Williams and Wilkins Co., 1960, pp. 604. \$16.50.)

This volume is the result of the collaboration of the staff of a large general hospital where consultants in all the various medical and surgical specialties have conducted clinics to which obstetrical patients suffering from a wide variety of complications have been referred and studied in detail. As a result, a reference book has been compiled giving authoritative answers to major and minor problems which may confront the obstetrician who undertakes the care of a pregnant woman.

To anyone who has practiced obstetrics for a long period of time it emphasizes the change which has taken place in adequate antenatal, intrapartum and postpartum care. No longer are the mechanical problems of childbirth the predominant responsibility of the obstetrician, but the modern obstetrical physician must have detailed knowledge of a wide range of pathological processes, the importance of these conditions being frequently accentuated by the metabolic strain of pregnancy.

The critic will search in vain for omissions in this comprehensive work. The section on heart disease presents an up-to-date consideration of this important complication. Haematologic problems and endocrine disorders, including diabetes, are dealt with clearly and in an

authoritative manner. The sections dealing with neurological complications and mental and emotional problems are particularly interesting especially as it is unusual to see them dealt with at length in an obstetrical text. Virus diseases and an appreciation of the basic problems of congenital abnormalities as well as the problems of malignant disease, both of the genital tract and breast, are outstanding features of this excellent book.

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GENERAL ENDOCRINOLOGY. 3rd Ed. By C. Donnell Turner. (Philadelphia: W. B. Saunders Co., 1960, pp. 511.)

This is a completely rewritten version of a book which has established itself as a standard text on general endocrinology as a basic science. The approach is even more experimental than in previous editions, and while the importance of the applied viewpoint is recognized the purpose of the present volume is to convey the basic facts. The increasingly chemical development of the subject is reflected in the greater attention given to the chemistry of endocrinology, and there has been a greater addition of comparative material and an elimination of virtually all clinical references. The illustrations, the chapter references, and the text combine to make the present edition of *General Endocrinology* the most useful book of its kind.

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HUMAN PITUITARY HORMONES. Vol. 13. Ciba Foundation Colloquia on Endocrinology. Edited by G. E. W. Wolstenholme and C. M. O'Connor. (Boston, Mass.: Little, Brown & Co., 1960, pp. 336.)

The Ciba Foundation Colloquium on human pituitary hormones was held in Buenos Aires in 1959, honoring Dr. B. A. Houssay, Argentina's distinguished endocrinologist. Over thirty leading investigators from Europe and the Americas contributed research data for discussion. Major emphasis was placed on human growth hormone with discussion of its preparation, purification, identification in human serum by immunological methods, and metabolic effects in human subjects. Preparation and purification of human follicle stimulating hormone was also discussed, along with observations of its effect in human beings. In conjunction with chorionic gonadotropin, human FSH has produced apparent ovulation in infertile females, a feat never accomplished with infra-human gonadotropins. Final sections of the

colloquium described experiences with new methods of measuring and isolating other human pituitary factors, adrenocorticotrophic, melanocyte stimulating, and thyroid stimulating hormones.

Informal discussion which follows each formal presentation contributes measurably to analysis of the data. The volume maintains the high standard set by previous Colloquia in Endocrinology, which have consistently provided recent reliable research reports and thoughtful discussion of new knowledge in the field.

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PRINCIPLES OF HUMAN GENETICS. By Curt Stern. (San Francisco and London: W. H. Freeman and Co., second edition, 1960, pp. 753. \$9.50.)

In recording the publication of the first edition (1949) of "this masterpiece of an elementary textbook for students of human and population genetics" in the *Journal* (Vol. 107, p. 879), this chronicler was moved to place the event into the category of memorable occasions. What is more, he never had any reason afterwards to regret the choice of that superlative classification.

It is true that the appearance of the new edition (1960) was long in coming, obviously because of the many recent advances in the scientific areas covered. However, waiting a few years for the thorough revision has been definitely worthwhile. As to the size of the second edition it may be noted that it has grown considerably, from 617 to 753 pages and from 197 to 265 illustrations, in order to allow for a smooth incorporation of newly discovered data. The main thing is, however, that the superior standard of the widely used text has been maintained throughout. In fact, this is probably one of the first current books on human genetics that was not hopelessly outdated at the time it appeared in print.

While the general outline of the first edition has been more or less retained, it is significant that the new version of the book has undergone an imperceptible change in its mood. The nature of this change is best illustrated by the two formulations of a statement made in the introduction. In the first edition, the author conceded apologetically that "man is an unfavorable object for genetic study." In the second edition, this statement is formulated as follows: "At first sight, man appears to be an unfavorable object for genetic study." In this unobtrusive manner characteristic of the au-

thor's fine scholarship, the revised edition reflects that remarkable increase in the degree of confidence in the understanding of genetic phenomena in man, which was gained during the past decade.

Among newly added chapters is one concerned with "genetic hazards of radiation" (26 pages). The chapter "linkage and crossing over" has been subdivided into two, one dealing with different types of linkage, the other with the detection of linkage. The chapter on "heredity and environment" has been even more expanded and now consists of three separate sections entitled "types of twins"; "physical traits"; and "mental traits." The new chapter on mental traits begins with a series of examples taken from animal behavior studies, and the various sections dealing with the causes and effects of mutations have been similarly enlarged.

Of course, the new version of the section on "chromosomal sex" includes a lucid discussion of the cytogenetics of Turner's and Klinefelter's syndromes as well as of Barr's sex-chromatin bodies, and the chapter on "genic action" contains up-to-date information about the haptoglobins, the structure of haemoglobin, and the biochemistry of the sickle-cell trait. The formation of hybrid molecules in heterozygotes is briefly mentioned, while the section on inborn errors of metabolism still seems incomplete. On the other hand, the lists of references at the end of each chapter have been thoroughly revised and will prove to be helpful guides to further reading.

In the second edition, too, the most commendable features of the book are that the author neither talks down to the reader nor ever pretends that human genetics is without its own brand of technical difficulties and methodological dilemmas. Together with these dual qualities of modesty and scholarly integrity, it is the clearness of the presentation of a highly complex subject which makes the book what it was called 10 years ago, "an authoritative guide to the basic principles and dynamic potentialities of human heredity."

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EPIDEMIOLOGIC METHODS. By Brian MacMahon, Thomas F. Pugh and Johannes Ipsen. (Philadelphia and Montreal: J. B. Lippincott Co., 1960, pp. 302, illus. \$7.50.)

This volume from the Department of Epidemiology, School of Public Health, Harvard University, presents common-sense methods for the study of health and disease. The authors

emphasize that there are many purely medical problems to be solved before attention can be spared for life's remoter troubles as noted in the WHO definition of health. They point out, too, and demonstrate that simple arithmetic suffices generally for the application of the methods presented. They repudiate any suggestion that any problem can be readily solved by merely turning a couple of epidemiologists loose on it for a couple of days. And they also demonstrate that competent analysis requires, as an imperative basis, a deep understanding of the primary data, their limitations, their attendant circumstances and related events.

The publishers are to be congratulated on the physical readability of the book, including the illustrations, on the attractive format and the complete absence of typographical errors.

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CURRENT APPROACHES TO PSYCHOANALYSIS.

Edited by P. H. Hoch and J. Zubin. (New York: Grune & Stratton, 1960, pp. 207.)

This volume reports the proceedings of the 48th Annual Meeting of the American Psychopathological Association, New York City, 1960. The purpose of the symposium, according to the *Foreword*, was "... to bring together some of the outstanding current trends in psychoanalysis by providing a platform for representatives of each of these trends." The material is presented in 3 sections titled: Theoretical Approaches, Clinical Applications and Evaluation Studies.

In this type of forum, one would expect a concise presentation of the theoretical approach of each "school of psychoanalytic thought," rather than the introduction of new theoretical conceptions. Five theoretical approaches are summarized, beginning with Dr. Waelder's one-page outline of the psychoanalytic theory of the neuroses in its traditional application to the neuroses. He makes no allusion to the theoretical conceptions of ego psychology nor to modifications in technique that render it applicable to other psychopathological conditions; this is regrettable. After presenting a brief review of the development of Freud's theories, Dr. Sandor Rado outlines his theory of adaptational psychodynamics. Dr. Clara Thompson represents the views of Sullivan and Fromm as the theoretical framework of the W. A. White Institute and Dr. J. W. Vollmerhausen gives those of Horney, which are used at the American Institute of Psychoanalysis. Injury,

as a central point of reference in a concept of psychopathology, is discussed by Dr. Irving Bieber, representing the postgraduate training course at New York Medical College—Flower, 5th Ave. Hospital.

The round table discussion that follows is a bit livelier, with the "schools" represented by Drs. Sidney Tarachow, Lionel Ovesey, Edith Weigert, Harold Kelman and Saul Fisher, respectively. Dr. Ovesey is particularly forthright in stating those aspects of Freudian theory on which those who use the adaptational approach agree; those on which they disagree and which have been discarded and the results of applying the two frames of reference to one set of clinical observations. The knowledge and wisdom of Dr. Weigert are evident in her open-minded discussion of the various theoretical approaches and her ability to see the common ground and points of reconciliation among many of them. Her overview, which embraces some of the conceptions of a wide range of workers, is stimulating in its invitation to seek answers rather than to cherish theories.

The section on Clinical Applications includes papers on psychoanalytic method and technique by representatives of 3 of the schools, the classical and adaptational points of view being absent. This brief review of the volume cannot do justice to these detailed presentations.

The third part of the book, Evaluation Studies, contains provocative reports on 3 frontiers. Dr. David Levy writes on a method of analyzing clinical observations of relational behavior—a model of methodological procedure applied to an investigation of maternal attitudes. Changes occurring in patients during and after psychoanalytic treatment is reported by Dr. Henriette R. Klein. This study, carried out at the Columbia University Psychoanalytic Clinic by a cohesive group of investigators, evolves a method of evaluating patients' illnesses and responses to treatment. It is a pioneering effort that is continuing and that can contribute to the organization of similar investigations in other psychoanalytic centers. Dr. E. I. Burdock, a research psychologist and biometrician, is the senior author of a study, "Predicting Success in Psychoanalytic Training." How does one choose a candidate for psychoanalytic training who will successfully complete the course of training and emerge as a competent analyst? This report is a well organized effort to solve another methodological enigma and it broadens horizons for future investigations.

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TEXTBOOK OF MEDICAL PHYSIOLOGY. 2nd Edition. By *Arthur C. Guyton*. (Philadelphia : W. B. Saunders Co., 1961, pp. 1181, illustrated. \$15.50.)

This is an entirely rewritten version of a book which was first published in 1956, and upon publication was widely adopted as a teaching text. The enormous amount of labor the author has put into the writing of this book is abundantly justified by the results, for it undoubtedly constitutes one of the most readable, accurate, and certainly most up-to-date texts on the physiology of the human body. The illustrations are admirably clear, and the treatment of the human body as a single functioning organism controlled by a variety of regulatory systems, conveys the proper holistic view of the functioning organism.

In the discussion of the endocrinology of reproduction I miss an account of the steplike developmental processes involved, and I cannot help but think that there ought to be some reference to the physiology of the adolescent sterility period in the human female (as well as the male). But these are mere details. The book is quite admirable.

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SLEEP THERAPY IN THE NEUROSES. By *B. V. Andreev, M.D.* Translated from Russian by *Basil Haigh, M.A., M.B., B. Chir.* Edited by *Joseph Wortis, M.D.* (New York : Consultants Bureau Ent. Inc., 1960, pp. 114. \$8.50.)

The author reports on the material which had been collected since 1946 in the Pavlov Institute of Physiology. His conceptual framework underlying the sleep treatment is Pavlovian, mainly the concept of protective inhibition, and the contention that "many pathological phenomena are due, not to disturbance of the structure of nerve tissues, but to temporary inhibition, protective in character." The aim of sleep treatment consists "in the strengthening of this inhibition" which is "restorative and protective in character" in neuroses.

After a brief outline of the history of the method of sleep therapy, the author goes on to discuss the indication for such a treatment.

He indicates that "most of the authors who use sleep treatment think that, of all the various neurotic conditions, the best therapeutic results are attained in neurasthenia and neurasthenic states, especially in those with an asthenic symptomatology." There are disagreements as to the effectiveness of sleep therapy in hysteria and obsessional neuroses.

The method of treatment consists of the following points : 1. Preparation for the treatment ; 2. Forms of therapeutic sleep consisting of interrupted prolonged (fractioned) sleep, and prolonged nocturnal sleep ; 3. Daily program and environmental atmosphere ; 4. Physical hypnogenic factors, e.g. sound, temperature and weak rhythmic stimuli ; 5. The use of sedatives, mainly barbiturates and avoiding combination of sedatives ; 6. The use of inert substances (sedative substitutes) as conditioned reflex stimuli. This can be realized in some patients if it is used carefully, avoiding prolonged (for several successive days) replacement of sedative by inert substances ; and finally 7. The use of hypnosis and suggestion. The average daily sleep time is from 10 to 13 hours and the duration of sleep treatment from 1-3 weeks.

The author emphasizes repeatedly that "sleep therapy cannot nowadays be regarded as an independent and isolated method of treatment. It can only be effective in combination with other therapeutic factors, to be used in the subsequent period of the patient's stay in hospital or, in some cases, in the period of preparation for subsequent active psychotherapy."

As far as the immediate result of the treatment is concerned, of 87 patients 84% experienced "cure" or improvement. Of these, only 27 patients could be followed, 17 of whom "were in a satisfactory condition when we examined them" (time is undetermined).

The book ends with an extensive bibliography of the Russian literature given by the author, and a supplementary compiled by Dr. Wortis. The work as a whole, in addition to the bibliographies, is a valuable monograph for those interested in this subject.

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IN MEMORIAM

ROBERT A. MATTHEWS¹

1903-1961

Custom as well as spontaneous impulse and feeling bring us here today. Friends, relatives, family have gathered here. It is a Meeting, as so often in Philadelphia, without ceremony and ritual, where the Society of Friends has been accustomed to bring people together informally on the basis of community of feeling and dedication. This is a coming together to indicate by our presence many things.

There are many happy memories. The sparkle and alertness of the eyes, showing the keenness, the awareness of things obvious and often deeper implications than were first apparent. There was the not infrequent turning of his head and glance and attention to make sure those present were with him—that they knew and he knew what it was all about. There was a kind of social inclusiveness—his lines of sight with their comprehensive shifting and searching. There was a kindness and warmth and gaiety in his expression,—from the eyes, to the face, to the voice, with its expression of words, phrases, and opinions.

His observations and conclusions came readily but not impulsively and casually. They were restrained and kindly but had cogent, deep and forceful implications.

His pace and gait were lively but not driven. His greetings were friendly, whether the occasion was of serious business or for festivity. He had his repertoires whether of humorous stories and incidents, or of "telling" experiences which drove home a point. He had humor, which brought fun and balance to many occasions: whether his attempts to trim his hair short as a crew cut when there was not so much to clip, or his jolly little cap, or his white coat and black tie for formal occasions.

He had the psychological and the biological in balanced proportions in psychiatry. In his person and in his views the psychic

and the somatic were wholesomely represented.

And some of my memories run to Christmas Eve when, in Pickwickian attire and pixie mood, with solid friendliness and pride he brought his lovely help-mate and jolly children, full of spirit and enthusiasm. They all came to carol and drink a communion of friendship and neighborliness in the warmth of mulled wine.

Other memories also come of him: Doing a job and learning psychiatry, first in far off—at that time isolated, city managed, I was going to say almost zoological, Byberry. Or learning the refinements of psychiatry with Drs. Bond and Strecker in the comforts of the Pennsylvania Hospital. Or in gay New Orleans, where the distractions of Royal and Bourbon Streets, the delicious delicacies, exotic drinks, and jouncing jazz, did not too much divert him from the serious business of improving psychiatric care at the Charité. And as Chairman of the Department of Psychiatry at Louisiana State University he continually strove to improve the quality of psychiatric education in medical schools. The community and the state hospitals also felt his influence—he brought Maxwell Jones from far off England to conferences in the state hospitals.

He had fruitful collaboration with his colleague at Tulane—Bob Heath, who was exploring both the neurological and chemical aspects of schizophrenia, and modifying psychoanalysis.

His calmness, friendliness, resourcefulness, was shown when he was taking me from Biloxi to New Orleans to place me on a plane. He ran out of gas 100 miles from nowhere. I was wild—mildly turbulent as they say of a plane in rough, uncertain going, but I tried to contain myself. Then came his quiet reassurance that I should not worry and that he would arrive on time. Shortly a humble Cajun family in a doubtfully performing auto were pushing us 30 miles to a gas station. They refused any compensa-

¹ Remarks made at the funeral service in Philadelphia on June 27, 1961 by Kenneth E. Appel, M.D.

tion, though obviously in need of it with their huge family of children—so persuasive, so intriguing, was Bob Matthews' appeal.

In Charleston again, helping psychiatric education with his practical discussions on Emergencies in General Practice, or The Importance of Giving Psychiatric Information to the Police Force—giving them an elementary understanding of acute emergencies, the intransigencies and aberrancies of human conduct and how to handle them.

There in a day of delightful Spring weather, surrounded with Southern hospitality, he seemed receptive to tackling the Commissionership of Mental Health of Pennsylvania. With the determined, dedicated Harry Shapiro and the enlightened, sympathetic, Governor Leader, he introduced a new era in the care of the mentally ill in Pennsylvania. It was in his regime that the Western State Psychiatric Hospital with Dr. Brosin burgeoned into one of the great centers of psychiatry in the country; and then the Eastern Pennsylvania Psychiatric Institute, with the persistent and resourceful John Davis, got off the ground and was realizing a dream of a new development of psychiatry in Philadelphia where public psychiatry could offer not only the best in modern methods of treatment, but also could develop a phalanx of basic research, rising to refinements and penetrations that are representative of the best in the world. The state hospitals themselves felt this new influence, for development and progress, in their functions.

And finally in a historic professorship at the great Medical School at Jefferson—where Dercum, Strecker, Keyes, had been his predecessors, he showed leadership in developing psychiatry. He organized a large, successful, aggressive section of psychiatry in the great Jefferson Hospital. He established this with marked success—an undertaking that has been most difficult to achieve in Philadelphia Medical Schools.

With all this—teaching, explorations of new types of service, private practice—he did not abandon his efforts in behalf of public psychiatry, to improve the treatment of those who could not afford the best.

One of my last meetings was on the Med-

ical Board at the Eastern Pennsylvania Psychiatric Institute where we were searching for new methods and procedures in organization and practice. He contributed more than his share of resourceful suggestions to strengthen the foundations of that new institution, forging new precedents and instruments of research in a public hospital.

His home and family were a delight to enter.

There is a presence here we commemorate. It will always be in our hearts and its influences in our minds and decisions. As we commemorate, we dedicate our energies anew to the great and the constructive, taking with us his homely, humorous and balanced views of the ideal and the practical, dedications and directions for which Bob Matthews stood and lived.

Our love to his family and relatives.

When separations come, such as this, I always think of the great religious leaders of the world—but also of Socrates, Gandhi, Father Damien, Pasteur and Schweitzer—lives dedicated to the improvement of the lot of their fellow men. Plato concludes of Socrates: "such was the end of our friend." He was called wise, just and great. Bob Matthews will remain with us as friend, builder and co-laborer in the best of this great tradition. And from Avon come echoes, consoling, warming, energizing—as Bob Matthews would have liked.

"When to the sessions of sweet silent thought

I summon up remembrance of things past,
I sigh the lack of many a thing I sought,
And with old woes new wail my dear time's waste :

Then can I drown an eye, unus'd to flow,
For previous friends hid in death's dateless night,

And weep afresh love's long since cancell'd woe,

And moan the expense of many a vanish'd sight :

Then can I grieve at grievances foregone,
And heavily from woe to woe tell o'er
The sad account of fore-bemoaned moan,
Which I new pay as if not paid before.
But if the while I think on thee, dear friend,

All losses are restor'd and sorrows end."

FRANKLIN S. DuBOIS, M.D.
1906-1961

To the many friends of Franklin S. DuBois, his death on June 24 brought deep distress, but to those of us who worked with him, through the years, on the staff at Silver Hill, where he was Associate Medical Director, it meant irreparable loss as well. His knowledge of neuroanatomy and neurophysiology, and of internal medicine was a broad base on which his knowledge of psychiatry stood, giving him an everpresent awareness of the patient as a whole organism and contributing to his unusual diagnostic acumen and clinical judgment. To his high intelligence, excellent professional training and experience there was added a keen sensitiveness and intuitive understanding, together with a warmth of feeling and a depth of sympathy for those who suffer and are in distress, which is an essential part of the true physician. He was never too tired or too pressed for time to give generously of himself either to his patients or to his associates.

Doctor DuBois was born in Liberty, Indiana, and following graduation from Wabash College entered the Rush Medical College of the University of Chicago, where he was a member of Phi Beta Kappa and of Alpha Omega Alpha. Prior to specializing in neurology and psychiatry and joining the medical staff of Silver Hill in 1937, he was Professor of Anatomy; was active in the development of Connecticut's mental health program; was a past chairman of the Committee on Mental Health of the Connecticut State Medical Society, and at the time of his death was Chairman of the Board of Mental Health of the State of Connecticut. He was the author of many articles in the fields of neurology and psychiatry and was particularly interested in the problems of emotional adjustment in childhood and adolescence. Some of his papers dealing with the developmental

stages of the individual have been widely used for reference in schools and mental health groups.

Doctor DuBois was also active in his contributions to his community. In New Canaan he had served on the Board of Trustees at the Country School and was a member of St. Mark's Episcopal Church.

He was a diplomate of the American Board of Psychiatry and Neurology; a fellow of the American Medical Association, the American College of Physicians and the American Psychiatric Association, and a member of the American Neurological Association. He was an associate attending neurologist of the Vanderbilt Clinic of the Columbia-Presbyterian Medical Center; consultant to the department of psychiatry, Greenwich Hospital, Greenwich, Conn.; and consultant to the department of psychiatry and neurology of the Norwalk Hospital in Norwalk, Conn.

With the recurrence of his malignant disease last spring and his certain knowledge that he was in its terminal stage, Frank DuBois faced death with inspiring courage, and, in spite of physical torture, for weeks and months without complaint, his only concern was for his family, his patients, and his friends. The classic words which Mark Antony spoke would seem applicable to Frank Dubois:

His life was gentle, and the elements
So mix'd in him that Nature might stand up
And say to all the world "This was a man!"

Doctor DuBois is survived by his wife, Maurine Tompkins DuBois, his two sons, Arthur L., and Franklin S. DuBois, Jr., his parents, Mr. and Mrs. Smith DuBois of Liberty, Indiana, a sister, Miss Charlotte DuBois of Austin, Texas, and two grandchildren.

William B. Terhune, M.D.

THE ADOLF MEYER LECTURE CHILDHOOD MOURNING AND ITS IMPLICATIONS FOR PSYCHIATRY¹

JOHN BOWLBY, M.D.²

INTRODUCTION

For half a century or more there has existed a school of thought that has believed that experiences of infancy and childhood play a large part in determining whether or not an individual grows up prone to develop psychiatric illness. To the growth of this school Adolf Meyer made a great contribution. Insisting that the psychiatric patient is a human being and that his disturbed thought, feeling and behaviour must be seen in the context of the environment in which he is living and has lived, Adolf Meyer bade us pay attention to all the complex details of the patient's life history as possible clues to his illness. "The most valuable determining feature is, as a rule, the *form of evolution* of the [symptom] complex, the time and duration and circumstances of its development." Though I find no evidence that Adolf Meyer was greatly interested in experiences of earliest childhood, they lie plainly within his field of vision and are indeed a logical extension of his work.

Over the years, the belief that experiences of early childhood are of much consequence for the development of psychiatric illness has grown in strength. Nevertheless, the basic hypothesis has always been a subject of sharp controversy. Some have contended that the hypothesis is mistaken—that psychiatric illness has its roots elsewhere than in early childhood; whilst those who believe the hypothesis to be fruitful are still at sixes and sevens regarding precisely what experiences are relevant. Much of the controversy arises from the difficulty of conducting satisfactory research in this area—a difficulty turning largely on the long gap in time between the events thought to be of consequence and the onset of the de-

clared illness. For the science of psychopathology, therefore, the problem posed is how best to explore the area in order to reach firmer ground. My plan in this lecture is to give an account of recent developments in one line of investigation, that which has set out to understand the effect on personality development of loss of maternal care in early childhood.

In the past 20 years much evidence has accumulated that points to a causal relationship between loss of maternal care in the early years and disturbed personality development(7). Many common deviations seem to follow an experience of this kind—from delinquent character formation to a personality prone to anxiety states and depressive illness. Although there are some psychiatrists who still challenge this general conclusion, a more usual attitude is to accept that there is probably something in it and to ask for more information. A particular request has been for an hypothesis which can provide a plausible explanation of how it is that the ill effects attributed to separation and deprivation come to follow such experiences. Since it is to an attempt to fill this gap that I have been devoting myself in recent years, my plan is to present a sketch of where the evidence seems to be leading.

In judging my thesis I must ask you to bear in mind that the enquiry does not follow the usual practice of psychiatric research which starts with a more or less defined clinical syndrome and attempts then to delineate the underlying pathology. Instead, it starts with a class of experience, loss of mother figure in infancy and early childhood, and attempts thence to trace the psychological and psychopathological processes that commonly result. In physiological medicine a shift of this kind in research orientation has occurred long since. In studies, for example, of the pathology of chronic infection of the lungs, the investi-

¹ Read at the 117th annual meeting of the American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

² Tavistock Child Development Research Unit, 2 Beaumont St., London, W. 1, Eng.

gator is no longer likely to start with a group of cases all showing chronic infection and attempt to discover the infective agent or agents that are at work. It is more likely he will start with a specified agent, perhaps tubercle or actinomycosis or some newly identified virus, in order to study the physiological and physiopathological processes to which it gives rise. In so doing he may discover many things which are not immediately relevant to chronic infective pulmonary conditions. Not only may he throw light on certain acute infections and sub-clinical conditions, but he is almost sure to discover that infections of other organs besides lungs are the work of the pathogenic organism he has selected for study. No longer is his centre of interest a particular clinical syndrome: it has become instead the manifold sequelae of a particular pathogenic agent.

The pathogenic agent the effects of which I shall be discussing is loss of mother figure during the period between about 6 months and 6 years of age. During the early months of life the infant is learning to discriminate a particular figure, usually his mother, and is developing a strong liking to be in her company. After about 6 months he shows his preferences in unmistakable fashion (55). Throughout the latter half of his first year and during the whole of his second and third he is closely attached to his mother figure, which means that he is content in her company and distressed in her absence. Even momentary separations often lead him to protest and longer ones always do. After the third birthday the strength of the attachment commonly diminishes, though for some further years it remains strong. From about his first birthday onwards other figures also, for example father or grandmother, may become important to him so that his attachment is not confined to a single figure. Nevertheless, there is usually a well-marked preference for some one person. In the light of phylogeny it is likely that the instinctual bonds that tie human young to a mother figure are built on the same general pattern as in other mammalian species (9, 30, 52).

The majority of children suffer little disruption of this primary attachment in their early years. They live with their mother

figure and, during the relatively brief periods when she is absent, are cared for by a familiar subordinate figure. On the other hand a minority does experience disruptions. Their mother may desert or die; they may be left in hospital or institution; they may be handed from one mother figure to another. Disruptions may be long or short, single or repeated. The experiences that belong under the general heading of maternal deprivation are thus multifarious and no one investigation can study them all. If, therefore, effective research is to be done, for each project the experience to be studied must be fairly narrowly defined.

As regards research strategies, the investigator has a choice (2). An obvious possibility is to examine a sample of older children and adults who had the experience in their early years with a comparable sample who did not have the experience. Although brilliantly adopted by Goldfarb (29), this strategy has many practical difficulties. The principle ones are locating a suitable sample, selecting and examining appropriate controls, and finding reliable instruments to measure the features of personality that are expected to show differences. An alternative approach is to study the child's responses at the time of and in the period immediately subsequent to the experience. After spending several not very productive years following the first strategy, it is the second on which my research group has concentrated during most of the past decade. It has been much more rewarding.

SEPARATION FROM MOTHER AND CHILDHOOD MOURNING

The basic data with which we have been concerned are observations of the behaviour of healthy children of a defined age, namely in their second and third years, undergoing a defined experience, namely stays of limited duration in residential nurseries or hospital wards and there cared for in traditional ways. This means that the child is removed from the care of his mother figure and all subordinate figures and also from his familiar environment and is cared for instead in a strange place by a succession of unfamiliar people. Further data are derived from observations of his behaviour in his home during the months after his return and

from reports of it from his parents. Thanks to the work of James Robertson and Christoph Heinicke we have now a considerable body of observations, some of which have been published (8, 31, 49, 50, 51). Because observations by a number of other workers (3, 14, 15, 34, 48, 54, 56), record substantially similar sequences of response, we feel fairly confident of the common patterns.

In the setting described a child of 15 to 30 months who has had a reasonably secure relationship to his mother and has not previously been parted from her will commonly show a predictable sequence of behaviour. This can be broken into 3 phases according to what attitude to his mother is dominant. We have described them as phases of Protest, Despair and Detachment.³ At first with tears and anger he demands his mother back and seems hopeful he will succeed in getting her. This phase of Protest may last several days. Later he becomes quieter, but to the discerning eye it is clear that as much as ever he remains preoccupied with his absent mother and still yearns for her return; but his hopes have faded and he is in the phase of Despair. Often these 2 phases alternate: hope turns to despair and despair to renewed hope. Eventually, however, a greater change occurs. He seems to forget his mother so that when she comes for him he remains curiously uninterested in her, and may seem even not to recognise her. This is the phase of Detachment. In each of these phases the child is prone to tantrums and episodes of destructive behaviour, often of a disquietingly violent kind.

The child's behaviour on return home depends on the phase reached during the period of separation. Usually for a while he is unresponsive and undemanding; to what degree and for how long turns on the length of the separation and the frequency of visits. For example, when he has been away unvisited for a few weeks or months and so has reached the early stages of detachment, it is likely that unresponsiveness will persist from an hour to a day or more. When at length it breaks the intense ambiv-

alence of his feelings for his mother is made manifest. There is a storm of feeling, intense clinging and, whenever his mother leaves him, even for a moment, acute anxiety and rage. Thenceforward, for weeks or months his mother may be subjected to impatient demands for her presence and angry reproaches when she has been absent. When, however, he has been away for a period of more than 6 months or when separations have been repeated, so that he has reached an advanced stage of detachment, there is danger that he may remain detached and so never recover his affection for his parents.⁴

Now in interpreting these data and in relating them to psychopathology a key concept is that of mourning. There is, indeed, good reason to believe that the sequence of responses described—Protest, Despair and Detachment—is a sequence that, in one variant or another, is characteristic of all forms of mourning. Following unexpected loss there seems always to be a phase of protest during which the bereaved person is striving, either in actuality or in thought and feeling, to recover the lost object and is reproaching it for desertion. During this and the succeeding phase of despair, feelings are ambivalent while mood and action vary from an immediate expectancy expressed in an angry demand for the object's return to a despair expressed in subdued pining—or even not expressed at all. Though alternating hope and despair may continue for a long time, at length there develops some measure of emotional detachment from the object lost. After having undergone disorganisation in the phase of Despair, behaviour in this phase becomes reorganised on the basis of the object's permanent absence. Though this picture of healthy mourning is not altogether familiar to psychiatrists, evidence that it is a true one seems compelling (12).

⁴ Many variables influence the child's behaviour during and after separation and this makes a brief schematic exposition difficult. The description given applies especially to the behaviour of children who are unvisited and are cared for by nurses or others who have little insight or sympathy for his fretting. It seems likely that free visiting and more insightful care can mitigate the processes described, but there is as yet little reliable information about this.

³ In certain earlier papers the term "Denial" was used to denote the third phase. It has many disadvantages, however, and has been abandoned.

If this view is correct, the responses of young children on removal to hospital or institution must be regarded simply as variants of basic mourning processes. Irrespective of age, it seems, the same kind of responses occur and in the same sequence. Like adults, infants and young children who have lost a loved object experience grief and go through periods of mourning (11). There appear to be only 2, inter-related differences. One is that in the young the time scale is abbreviated, though much less so than has sometimes been thought. The other, in which lies the significance for psychiatry, is that in childhood the processes leading to detachment are very apt to develop prematurely, inasmuch as they coincide with and mask strong residual yearning for and anger with the lost object, both of which persist, ready for expression, at an unconscious level. Because of this premature onset of detachment, the mourning processes of childhood habitually take a course that in older children and adults is regarded as pathological.

Once we recognise that the separation of a young child from his loved mother figure commonly precipitates processes of mourning of a pathological sort, we are able to relate our findings to those of many other enquiries. On the one hand are the findings of workers who have taken the grief of adults as a starting point for a study of psychopathology (18, 38, 42). On the other are those of the more numerous investigators who have followed the traditional pattern of psychiatric research, that starts with a sick patient and tries to discern what have been the preceding events of causal significance, and who have advanced the hypothesis that loss of loved object is in some way pathogenic.

Enquiries that have pointed to loss of loved object as probably pathogenic are of several kinds. First, there are the very numerous studies, of which Freud's *Mourning and Melancholia* is the prototype, that relate a psychiatric syndrome of relatively acute onset, such as anxiety state, depressive illness or hysteria, to a more or less recent bereavement, and postulate that the clinical picture is to be understood as the result of mourning having taken a pathological course. Next are the studies, almost equally

numerous, that relate a psychiatric syndrome of more chronic degree, such as a tendency to episodic depression or a difficulty in experiencing feelings, to a loss that occurred in the patient's adolescence or earlier childhood. Thirdly, there is the extensive psychoanalytic literature that seeks to relate a proneness towards psychiatric illness in later life with some failure of psychic development in early childhood. Fourthly, there is a steadily accumulating series of papers that show a raised incidence of childhood bereavement in the lives of those who subsequently develop psychiatric illness; and, finally, the striking observation that individuals are apt to become mentally ill at an age which appears to be determined by an episode in their childhood when they suffered the loss of a parent—the so-called anniversary reactions.

It is not possible in a single lecture to discuss systematically the relevance of the evidence derived from each of these sources. This I am attempting to do in a series of detailed papers in course of publication. The most that can be done now is to draw on a few typical studies from each field (but excluding anniversary reactions) and to indicate briefly how these findings appear to fit together. Since, however, the whole thesis turns on the nature of the processes of mourning and especially those present in the first phase, it is necessary to give them further attention.

URGES TO RECOVER AND TO REPROACH LOST OBJECT: THEIR ROLE IN PSYCHOPATHOLOGY

Now I wish to draw your attention to anger as an immediate, common and perhaps invariable response to loss. Instead of anger indicating that mourning is running a pathological course—a view suggested by Freud and rather commonly held—evidence makes it clear that anger, including anger with the lost object, is an integral part of the grief reaction. The function of this anger appears to be to add punch to the strenuous efforts both to recover the lost object and to dissuade it from deserting again that are the hallmarks of the first phase of mourning. Since this phase has not only been given little attention hitherto but appears crucial for an understanding of

psychopathology, it is necessary to explore it more fully.

Because in cases of death an angry effort to recover the lost object is so obviously futile there has been a tendency to regard it as itself pathological. I believe this to be profoundly mistaken. So far from being pathological, the evidence suggests that the overt expression of this powerful urge, unrealistic and hopeless though it may be, is a necessary condition for mourning to run a healthy course. Only after every effort has been made to recover the lost object, it seems, is the individual in a mood to admit defeat and to orient himself afresh to a world from which the loved object is accepted as irretrievably missing. Protest, including an angry demand for the object's return and reproach against it for deserting, is as much a part of the *adult's* response to loss, especially a sudden loss, as of the young child's.

This may seem puzzling. How comes it that such demands and reproaches should be made even when the object is so plainly beyond recall? Why such gross realism? There is I believe a good answer: it stems from evolution theory.

In the first place, a review of the behavioural responses to loss that are shown by infra-human species—birds, lower mammals and primates—suggests that these responses have ancient biological roots. Though not well recorded, such information as is available shows that many if not all the features described for humans—*anxiety and protest, despair and disorganisation, detachment and reorganisation*—are the rule also in many lower species.⁵

In the second place, it is not difficult to see why these responses should have been evolved. In the wild to lose contact with the immediate family group is extremely dangerous, especially for the young. It is, therefore, in the interests of both individual

safety and species reproduction that there should be strong bonds tying together the members of a family or of an extended family; and this requires that every separation, however brief, should be responded to by an immediate, automatic and strong effort both to recover the family, especially the member to whom attachment is closest, and to discourage that member from going away again. For this reason, it is suggested, the inherited determinants of behaviour (often termed *instinctual*) have evolved in such a way that the standard responses to loss of a loved object are always urges first to recover it and then to scold it. If, however, the urges to recover and scold are automatic responses built into the organism, it follows that they will come into action in response to *any* and *every* loss and without discriminating between those that are really retrievable and those, statistically rare, that are not. It is an hypothesis of this kind, I believe, that explains why a bereaved person commonly experiences a compelling urge to recover the object even when he knows the attempt to be hopeless and to reproach it even when he knows reproach to be irrational.

If then neither the futile effort to recover the lost object nor angry reproaches against it for deserting are signs of pathology, in what ways, we may ask, is pathological mourning distinguished from healthy? Examination of the evidence suggests that one of the main characteristics of pathological mourning is nothing less than an inability to express overtly these urges to recover and scold the lost object, with all the yearning for and anger with the deserting object that they entail. Instead of its overt expression, which though stormy and fruitless leads on to a healthy outcome, the urges to recover and reproach with all their ambivalence of feeling have become split off and repressed. Thenceforward, they have continued as active systems within the personality but, unable to find overt and direct expression, have come to influence feeling and behaviour in strange and distorted ways; hence many forms of character disturbance and neurotic illness.

Let me give a brief illustration of one such form, drawn from a case reported by Helene Deutsch (16).

⁵ Evidence is reviewed by Bowlby (12) and Pollock (47). To give an example quoted by Pollock: A male chimpanzee who had lost his mate is recorded to have made repeated efforts to arouse her. He yelled with rage and at times expressed his anger by snatching at the short hairs of his head. Later there was crying and mourning. As time wore on he became more closely attached to his keeper and more angry than he had been hitherto when the keeper left him.

When he came for analysis in his early thirties, this man was without apparent neurotic difficulties. The clinical picture, however, was one of a wooden and affectionless character. Helene Deutsch describes how "he showed complete blocking of affect without the slightest insight . . . He had no love relationships, no friendships, no real interests of any sort. To all kinds of experience he showed the same dull and apathetic reaction. There was no endeavour and no disappointment . . . There were no reactions of grief at the loss of individuals near to him, no unfriendly feelings and no aggressive impulses." How did this barren and crippled personality develop? In the light of an hypothesis regarding childhood mourning, the history together with material stemming from analysis enable us to construct a plausible account.

First, history: when he was 5-years-old his mother had died and it was related that he had reacted to her loss without any feeling. Thenceforward, moreover, he had retained no recollection of any events prior to her death. Secondly, material from analysis: he described how through several years of later childhood he used to leave his bedroom door open "in the hope that a large dog would come to him, be very kind to him, and fulfil all his wishes." Associated with this fantasy was a vivid childhood memory of a bitch which had left her puppies alone and helpless when she had died shortly after their birth. Although in this fantasy the hidden longing for his lost mother seems plainly evident, it is not expressed in a simple direct way. Instead, all memories of his mother had disappeared from consciousness and, insofar as any conscious affects towards her could be discerned, they were hostile.

To explain the course of development in this case the hypothesis I am advancing (and one that is not very different from Helene Deutsch's) is that, following his mother's death, instead of there being a full expression of his desire for his mother's return and anger at her desertion, his mourning had moved on precipitately to a condition of detachment. In so doing the yearning and the anger had become locked inside him, potentially active but shut off from the world, and only the remainder of his personality had been left free for further development. As a result he grew up gravely impoverished. If this hypothesis is valid, the task of treatment is to help the patient to recover his latent longing for his lost mother and his latent anger with her for deserting him, in other words to return to the first phase of mourning with all its ambivalence of feeling which at the time of the loss had either been

omitted or scamped. The experience of many analysts, well illustrated in a paper by Root (53), suggests that it is in fact only in this way that such a person can be restored to a life of feeling and attachment.

Strong support for this hypothesis comes from our observations of young children separated from their mothers and unvisited, especially from what we know of the early stages of detachment that follow protest and despair. Once the separated child has entered the phase of detachment he seems no longer preoccupied with his missing mother and instead to have adapted satisfactorily in his new surroundings. When his mother comes to fetch him, so far from greeting her he seems hardly to know her and, so far from clinging to her, remains remote and unresponsive; it is a condition that most mothers find distressing and incomprehensible. Provided the separation has not lasted too long, however, it is reversible, and it is in what happens after reversal that special interest lies.

After the child has been back with his mother a few hours or a few days, the detached behaviour is replaced not only by all the old attachment but by attachment of greatly heightened intensity. From this it is clear that during detachment the ties binding him to his mother have not quietly faded, as is suggested by Anna Freud (20),⁶ nor has there been a simple forgetting. On the contrary, the data strongly suggest that during the phase of detachment the responses that bind the child to his mother and lead him to strive to recover her are subject to a defensive process. In some way they are removed from consciousness, but remain latent and ready to become active again, at high intensity, when circumstances change.⁷ This means that in infants and young children the experience of separation habitually initiates defensive processes which lead to yearning for the lost object

⁶ In an earlier publication (14), however, Anna Freud adopted a viewpoint similar to that taken here.

⁷ The change of circumstance required varies with the stage to which detachment has progressed. When the child is still in the early phases, renewed attachment usually follows reunion with his mother: when he is in an advanced stage analytic treatment is likely to be required.

and reproach for its desertion both to become unconscious. Another way of stating it is that, in early childhood, loss is responded to by processes of mourning that habitually take a course that in adults is deemed pathological.

The question that now arises is whether the defensive processes that are so striking following loss in childhood are different in kind from what is seen in healthy mourning or whether they occur in healthy mourning also but with some difference of form or timing. Evidence suggests that they do occur⁽¹²⁾, but that in the healthy process their onset is delayed. As a result the urges to recover the lost object and to reproach it have time enough for expression so that, through repeated failure, they are gradually relinquished or, in terms of learning theory, extinguished. What appears to happen in childhood (and in the pathological mourning of later years), on the other hand, is that the development of defensive processes is accelerated. As a result, the urges to recover and to reproach the lost object have no chance to be extinguished and instead persist, with consequences that are serious.

Let us return briefly to apply these ideas to Helene Deutsch's patient. Following his mother's death when he was 5, it seems, both longing and anger had disappeared from his conscious self. The fantasy of the visit from the dog shows, however, that they persisted nonetheless at an unconscious level. This and evidence from other cases suggests that, although immobilised, both his love and his anger had remained directed towards the recovery of his dead mother. Thus, locked in the service of a hopeless cause, they had been lost to the developing personality. With loss of mother had gone loss also of his feeling life.

Two common technical terms are in use to denote the processes at work: fixation and repression. Unconsciously the child remains fixated on the lost mother: his urges to recover and to reproach her, and the ambivalent emotions connected with them, have undergone repression.

Another defensive process, closely related to and alternative to repression, also occurs following loss. This is "splitting of the ego." In such cases one part of the personality, secret but conscious, denies that the object

is really lost and maintains, instead, either that there is still communication with it or that it will soon be recovered; whilst simultaneously another part of the personality shares with friends and relatives the knowledge that the object is irretrievably lost. Incompatible though they be, the two parts may co-exist over many years. As in the case of repression, ego splits lead also to psychiatric illness.

Why in some cases the part still yearning to recover the lost object should be conscious and in others it should be unconscious is unclear. So too are the conditions which lead some bereaved children to develop satisfactorily whilst others do not.⁸ What seems certain, however, is that the precipitate onset of the defensive processes, repression or splitting, with the resulting fixation, is initiated much more readily in childhood than in more mature years. In this fact lies a main explanation, I suggest, of why and how it is that experiences of loss in early childhood lead to faulty personality development and proneness to psychiatric illness.

The hypothesis I am advancing, therefore, is that in the young child the experience of separation from mother figure is especially apt to evoke psychological processes of a kind that are as crucial for psychopathology as are inflammation and its resulting scar tissue to physiopathology. This does not mean that a crippling of personality is the inevitable result; but it does mean that, as in the case, say, of rheumatic fever, scar tissue is all too often formed which in later life leads to more or less severe dysfunction. The processes in question, it seems, are pathological variants of those that characterise healthy mourning.

Although this is a theoretical position that is closely akin to many others already in the field, it appears nonetheless to be different from them. Its strength lies in relating the pathological responses with which we are confronted in older patients to responses to loss that are actually to be observed in early childhood, thereby providing a more solid link between psychiatric conditions of later life and childhood experience. Let us turn

⁸ This is a problem that Josephine Hilgard is studying (33).

now to compare this formulation with some of its predecessors.

TWO TRADITIONS IN PSYCHOANALYTIC THEORISING

During this century a number of psychoanalysts and psychiatrists have sought to relate psychiatric illness, loss of a loved object, pathological mourning and childhood experience. Almost all have taken as their starting point the sick patient.

It is more than 60 years since Freud first adumbrated the idea that both hysteria and melancholia are manifestations of pathological mourning following more or less recent bereavement(25), and more than 40 years since in *Mourning and Melancholia* he advanced the hypothesis in a systematic way(21). Since then there have been a host of other studies all of which in different ways support it; recently this literature has been ably reviewed by Parkes(46). Clinical experience and a reading of the evidence leaves little doubt of the truth of the main proposition—that much psychiatric illness is an expression of pathological mourning—or that such illness includes many cases of anxiety state, depressive illness and hysteria, and also more than one kind of character disorder. Plainly there has been discovered here a large and important field; for it to be explored fully much further work is required.

Controversy begins when we come to consider why some individuals and not others respond to loss in these pathological ways: and it is amongst hypotheses that seek to account for the origin of such differential responsiveness that the one I am advancing belongs.

An hypothesis that has influenced all later workers with a psychological orientation was outlined by Abraham(1). As a result of analysing several melancholic patients, he came to the conclusion that "in the last resort melancholic depression is derived from disagreeable experiences in the childhood of the patient." He therefore postulated that, during their childhood, melancholics have suffered from what he termed a "primal parathymia." In these passages, however, Abraham never uses the words grief and mourning; nor is it clear that he recognised that for the young child

the experience of losing mother (or of losing her love) is in very truth a bereavement.

Since then, a number of other psychoanalysts in trying to trace the childhood roots of depressive illness and of personalities prone to develop it have drawn attention to unhappy experiences in the early years of their patients' lives. Except in the tradition of theorising initiated by Melanie Klein, however, few have conceptualised the experiences in terms of bereavement and pathological mourning. Nevertheless, when we come to study the experiences to which they refer, it seems evident that this is the frame of reference that best fits them. I will give as examples 3 patients described in the literature.

In 1936 Gerö reported 2 patients suffering from depression. One of them, he concluded, had been "starved of love" as a child; the other had been sent to a residential nursery and had only returned home when he was 3. Each showed intense ambivalence towards any object that was loved, a condition which, Gerö believed, could be traced to the early experience. In the second case, he speaks of both a fixation on the mother and an inability to forgive her for the separation. Edith Jacobson in her extensive writing on the psychopathology of depression draws regularly on a female patient, Peggy, whose analysis she describes in 2 papers(36, 37). On referral, Peggy, aged 24, was in a state of severe depression with suicidal impulses and depersonalisation; these symptoms had been precipitated by a loss, actually the loss of her lover. The childhood experience on which Edith Jacobson places major emphasis occurred when Peggy was 3½ years old. At this time her mother went to hospital to have a new baby, whilst she and her father stayed with the maternal grandmother. Quarrels developed and father departed. "The child was left alone, disappointed by her father and eagerly awaiting her mother's return. However, when the mother did return it was with the baby." Peggy recalled feeling at this time "This was not my mother, it was a different person," (an experience that we know is not uncommon in young children who have been separated from their mothers for a few weeks). It was soon after this, Edith Jacobson believed, that "the little girl broke down in her first deep depression."

Now it may be questioned both whether the experiences in these patients' early

childhoods were accurately recalled and also whether the analysts were right in attributing to them so much significance for their patients' emotional development. But, if we accept as I am inclined to do both the validity of the experiences and their significance, I believe the concept of pathological mourning to be the one best fitted to describe both how the patient responded at the time and also to relate the experience of childhood to the psychiatric illness of adult life. Neither author utilises this concept, however. Instead both use concepts such as "disappointment" and "disillusionment" which appear to have a different significance.

Several other analysts, whilst in greater or less degree alive to the pathogenic role of such experiences in childhood, also do not identify the child's response to loss with mourning. One is Fairbairn (19). A second is Stengel who, in his studies of compulsive wandering (58, 59, 60), draws special attention to the urge to recover the lost object. A third is the present writer in his earlier work (6, 7). Others are Anna Freud (20) and Rene Spitz (57), both of whom, by disputing the notion that infants and young children mourn, have ruled out as a possibility the hypothesis that neurotic and psychotic character developments are sometimes the result of mourning in childhood having taken a pathological course.

A main reason why the child's response to loss is so often not identified with mourning appears to be a tradition that confines the concept "mourning" to processes that have a healthy outcome. Although this usage, like any other, is legitimate, it has one grave disadvantage: logically it becomes impossible to discuss, as such, any variants of mourning that may seem pathological. The consequent difficulties are illustrated by Helene Deutsch already quoted (16). In her discussion there is firm recognition both of the central place of childhood loss in the production of symptoms and character deviations and also of a defence mechanism which, following loss, may lead to an absence of affect. Nevertheless, although she relates this mechanism to mourning, it is represented more as an alternative to than as a pathological variant of mourning. Whilst at first sight this distinction may appear one merely of terminol-

ogy, it is of more significance. For to regard the defensive process following childhood loss as an alternative to mourning is to miss both that defensive processes of similar kinds but of lesser degree and later onset enter also into healthy mourning, and also that what is pathological is not so much the defensive processes themselves as their intensity and the prematurity of their onset.

Similarly, although Freud was on the one hand deeply interested in the pathogenic role of mourning and on the other, especially in his later years, was also aware of the pathogenic role of childhood loss, he seems nonetheless never to have put his finger on childhood mourning and its disposition to take a pathological course as concepts which link these 2 sets of ideas together. This is well illustrated in his discussion of the splitting of the ego in the defensive process, to which he was giving special attention at the end of his life (23).

In one of his papers (22), Freud describes 2 patients in whom an ego split had followed loss of father.

In the analysis of two young men, I learnt that each of them—one in his second and the other in his tenth year—had refused to acknowledge the death of his father . . . and yet neither of them had developed a psychosis. A very important piece of reality had thus been denied by the ego . . . [But] it was only one current of their mental processes that had not acknowledged the father's death; there was another that was fully aware of the fact; the one which was consistent with reality [namely that the father was dead] stood alongside the one which accorded with a wish [that the father should still be living] (22).

In this and related papers, however, Freud does not relate his discovery of such splits in the ego to the pathology of mourning in general nor to childhood mourning in particular. He did recognise them, nevertheless, as the not uncommon sequelae of bereavements in early life. "I suspect," he remarks when discussing his findings, "that similar occurrences are by no means rare in childhood." Recent statistical studies, we shall see, show that his suspicion was well-founded.

Thus a reading of the literature shows that, despite attributing much pathogenic

significance to loss of a parent and to loss of love, in the main tradition of psycho-analytic theorising the origin of pathological mourning and of the consequent psychiatric illness in the adult is not connected with the disposition for processes of mourning to take a pathological course when they occur following a loss in infancy and early childhood.

I believe it to have been a major contribution of Melanie Klein(39, 40) to have made this connection. Infants and young children mourn and go through phases of depression, she maintains, and their modes of responding at such times are determinants of the way that in later life they will respond to further loss. Certain methods of defence, she believes, are to be understood as "directed against the 'pining' for the lost object." In these respects my approach is identical with hers. Differences arise, however, over the particular experiences that are thought to be of importance, the age at which they are thought to occur, and the nature and origin of anxiety and aggression.

The experiences of loss which Melanie Klein has suggested are pathogenic, all belong to the first year of life and are mostly connected with feeding and weaning. Aggression is regarded as an expression of the death instinct, and anxiety the result of its projection. None of this I find convincing. In the first place the evidence she advances regarding the overwhelming importance of the first year and of weaning is, on scrutiny, far from impressive(11). In the second, her hypotheses regarding aggression and anxiety are not easy to fit into a framework of biological theory(10). It is, I believe, because so many find the elaborations with which Melanie Klein has surrounded the hypothesis regarding the role of childhood mourning implausible that the hypothesis itself remains neglected. This is a pity.

My position therefore is that, although I do not regard the details of Melanie Klein's theory of the depressive position as a satisfactory way of explaining why individuals develop in such diverse ways that some respond to later loss with healthy mourning whilst others do so with one or another form of pathological mourning, I nonetheless hold her theory to contain the

seeds of a very productive way of ordering the data. The alternative elaborations which I believe the evidence favours are that the most significant object that can be lost is not the breast but the mother herself (and sometimes the father), that the vulnerable period is not confined to the first year but extends over a number of years of childhood (as Freud, 24, held), and that loss of a parent gives rise not only to primary separation anxiety and grief but to processes of mourning in which aggression, the function of which is to achieve reunion, plays a major part. Whilst sticking closely to the data, this formulation has the additional merit of fitting readily into biological theory.

Substantial though the differences are between Melanie Klein's standpoint and mine, the area of agreement is also substantial. Both hold as a main hypothesis that processes of mourning occurring in these early years are more apt than when they occur later in life to take a pathological course and so to leave the individual thenceforward more prone than others to respond to further loss in a similar way. The version of this theory that I am now advancing appears to be consistent with much of the clinical material published in the literature and already referred to. This includes Freud's cases of splits in the ego, Stengel's cases of compulsive wandering, the depressive patients described by Abraham, Gerö and Edith Jacobson, and the patients with character defects described by Helene Deutsch, Melanie Klein, Fairbairn and the present writer. It is also consistent with the numerous studies which have appeared in the past 2 decades which show that the incidence of childhood loss in the lives of patients suffering from psychiatric illness and character defect is significantly higher than in a random sample of the population.

INCIDENCE OF CHILDHOOD LOSS IN PSYCHIATRIC PATIENTS AND DELINQUENTS

In a valuable critique of a dozen statistical papers on this topic available to him at the time of writing in 1958, Gregory remarks that "various selective factors, small samples, and lack of standardization in the recording of data render relatively few comparisons justifiable either with each other" or with data from controls. He points out

the many pitfalls in making such studies, some of which may exaggerate differences between psychiatric patients and controls but some of which mask them. Some of the reported data he re-works. After this careful and disinterested examination his conclusions carry weight. The incidence of loss of one or other parent in childhood, he holds, is almost certainly higher in the case of psychiatric patients than it is in the general population.

In considering and comparing the results of the various studies it must be borne in mind that each is concerned not only with a different kind of patient but often with a different kind of loss and with losses occurring at different times in the patient's life. This makes for confusion. A special problem arises in connection with age at loss, both because it is so central to our thesis and also because so many different age criteria have been employed. Some authors take a specified age in the late 'teens or even early twenties and count the losses that occurred at any time before it: others count losses occurring before a specified age somewhere in the early 'teens. There are a few, however, who divide the years of childhood into a number of age periods, and give the incidence of loss for each separately; for example, for the first 5 years of life, for the second 5 years, and so on.

Scrutiny of these data makes it clear that only the last type of study is satisfactory, because differences of incidence between patients and controls which are clearcut and significant during one 5-year period can

be largely or completely hidden when losses occurring during 2 or more such periods are summated. It is this undifferentiated way of presenting data that almost certainly accounts for some of the negative findings reported (e.g., 35).

Another cause of real difference being masked is the elimination of cases on the score of the inadequacy of data regarding childhood history, since, as Gregory points out, the incidence of early loss in such cases is likely to be raised.

For presentation in this lecture I have selected 4 studies which appear to have been carefully executed and to give reasonably trustworthy results (see Tables 1, 2 and 3). One of them is concerned with psychiatric inpatients, two with psychiatric outpatients, and one with persistent delinquents. In the first 3 studies the indices of loss are the loss of mother and father separately and by death only; in the fourth, the delinquents, the index used is loss of either or both parents and for any of a number of reasons, e.g., death, desertion, separation, divorce.

Barry was one of the first to be interested in this field and has published a number of studies. That of 1949(4) compares a sample of nearly 1,700 patients who were aged 40 years and under when admitted to a U. S. mental hospital with a control series of subjects derived from life insurance tables; 60% of the patient group were diagnosed as dementia praecox. Figure 1 shows the incidence for the 2 groups of loss of mother through death by the age of the

TABLE 1
Incidence of Death of Mother by Age of Patient at Time of Loss
(From Barry 1949, Barry and Lindemann 1960, and Brown 1961)

Age at Loss Years	Study by	Incidence of Loss		Difference	P
		Patients	Controls		
		%	%	%	
0-4	Barry	3.80	1.94	1.86±0.45	.01
	Barry and Lindemann	4.12	1.18	2.94±0.63	.01
	Brown	7.30	2.16	5.14±1.82	.01
5-9	Barry	4.57	2.08	2.49±0.51	.01
	Barry and Lindemann	2.43	1.97	0.46±1.84	NS
	Brown	6.83	1.55	5.28±1.76	.01
10-14	Barry	3.26	2.5	0.76±0.43	NS
	Barry and Lindemann	2.11	2.35	-0.24	NS
	Brown	6.34	2.04	4.30±1.70	.02

TABLE 2
Incidence of Death of Father by Age of Patient at Time of Loss
(From Barry 1949, Barry and Lindemann 1960, and Brown 1961)

Age at Loss Years	Study by	Incidence of Loss		Difference	P
		Patients	Controls		
0-4	Barry	3.32	2.52	0.80 ± 0.43	NS
	Barry and Lindemann	2.32	1.58	0.74 ± 0.49	NS
	Brown	6.95	6.00	0.95 ± 1.79	NS
5-9	Barry	4.04	3.09	0.95 ± 0.48	.05
	Barry and Lindemann	2.55	2.90	-0.38	NS
	Brown	8.45	3.40	5.05 ± 1.96	.01
10-14	Barry	4.99	4.05	0.94 ± 0.53	NS
	Barry and Lindemann	3.80	3.67	0.13	NS
	Brown	12.40	2.52	9.88 ± 2.32	.001

TABLE III
Incidence of First Loss of One or Both Parents (all Causes) by Age of Subject at Time of Loss
(From Glueck and Glueck 1950)

Age at Loss Years	Incidence of Loss		Difference	P
	Delinquent	Non-Delinquent		
	%	%	%	
0-4	34	16	18.0 ± 2.67	.001
5-9	17	10.5	6.5 ± 2.16	.01
10-14	9	7	2.0 ± 1.64	NS

patient at the time of loss. It will be seen that the incidence among patients both in the first 5 years of life and in the second 5 years is about double that of the controls ;

in both cases the difference is statistically significant ($P < .01$). In the age period 10-14, incidence for the patients remains raised but is no longer significant.

INCIDENCE OF LOSS BY DEATH

MOTHER

FATHER

Fig #1

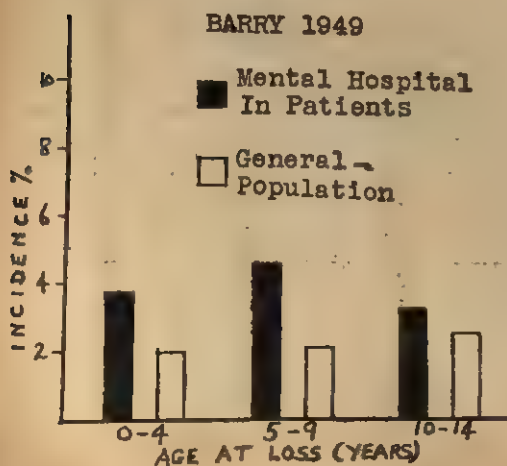


Fig #2

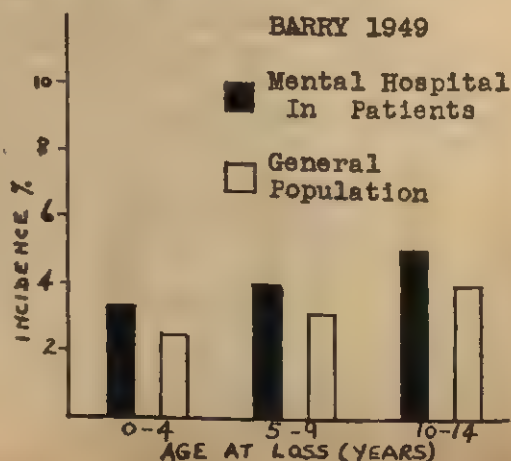
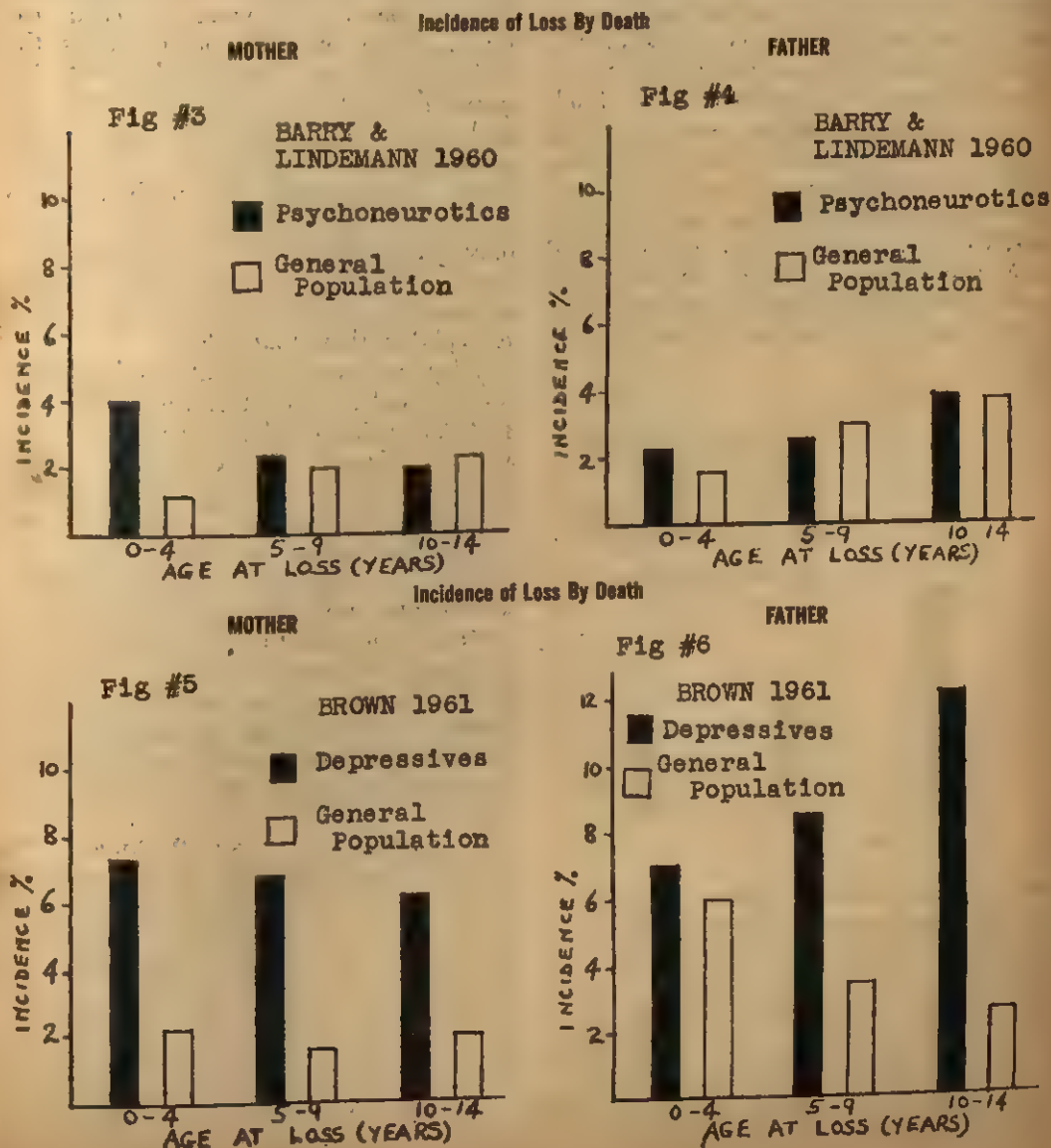


Figure 2 shows the incidence for the 2 groups of loss of father by death. Here again the incidence for the patient group is higher than for the controls, but this time it is less evident. Only in the 5-9 year age-period does the difference reach statistical significance ($P < .05$).

Last year Barry published another rather similar study(5). This time he investigated a group of nearly 1000 outpatients with diagnosis either psychoneurosis or psychosomatic illness. For this group the differences in parental death rates are much less marked than for the inpatients. Nevertheless Figure 3 shows that loss of mother in

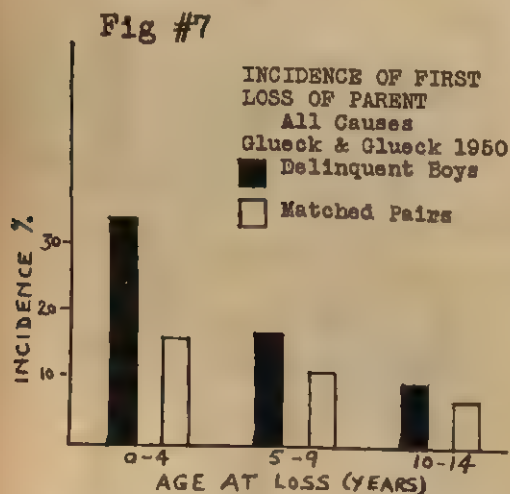
the first 5 years remains significantly raised ($P < .01$). Incidence of loss of mother at older ages, however, and loss of father during each of the age periods (Figure 4) are not very different in the patient group than in the controls.

Very recently an English psychiatrist, Felix Brown, whose theoretical position regarding the significance of childhood loss is similar to my own, presented figures in which incidence of parental loss in a group of over 200 depressive patients was compared with that of the general population as derived from the census of 1921(13). Figure 5 gives his findings for loss of mother



by death. The high incidence of loss during all 3 age periods is striking and significant ($P < .01$ for the younger age groups and $< .02$ for the 10-14 age group). Incidence of loss of father by death (Figure 6) is also high during each age period, though, because of the war of 1914-18, during the youngest age period it is high also for the controls each delinquent was paired with a periods incidence of loss for the depressives is above that for the controls to a significant degree ($P < .01$).

The fourth study which I have selected concerns not psychiatric patients but 500 persistently delinquent boys in their early teens. This is perhaps the best of the many studies carried out by the Gluecks (27). For controls each delinquent was paired with a non-delinquent boy matched for age, intelligence, national origin and residence (mostly in poor neighbourhoods). In this study the criteria of parental loss are extensive and include loss not only by death but by divorce, separation, desertion and prolonged absence due to illness or imprisonment. Since no breakdown is given as to which parent was lost, Figure 7 shows



the incidence of loss of either or both. Here, we are again struck by the raised incidence of loss during the first 5 years of the delinquents' lives. In fact in each of the two younger age periods the incidence of loss for the delinquents is significantly higher than for the controls ($P < .01$).

Apart from one British study of psychiatric outpatients published by Norton (44),

where virtually no significant difference in incidence of loss is found, the other studies available (e.g., 45, 61, 62, 41) all tell the same story. What is so striking is the consistency with which a raised incidence of loss is reported for the first 5 years of life. It is a finding that strongly supports the view that it is these early years that are the most critical.

Which, if any, of these years show a specially high incidence of parent loss, however, is more difficult to discern because most investigators do no more than group their cases into losses occurring within the whole of a 5-year period. Only 2 reports, both by Barry, give figures for each year separately. In one, that on inpatients, the incidence of loss of mother by death remains above the actuarial expectations for each year until about the eighth, after which it drops to the expected level. In the other, on outpatients, the incidence tends to be raised during each of the first 3 years only. These findings, it will be seen, do nothing to support the view held by some analysts that the first year of life is more critical than those that follow.

When we come to evaluate the figures for loss of mother and father respectively we find that incidence of loss of mother in the patient groups is more consistently above the expected rate than is incidence of loss of father (Tables 1 & 2). This is shown dramatically when we consider the age period 0-4 years. In each of the 3 studies I have presented, the incidence of loss of mother by death in the first 5 years is raised in significant degree (in each case $P < .01$). In none of them is the incidence of loss of father by death raised significantly. This strongly supports the view that in regard to the early years it is loss of mother that tells.

As regards later years, 2 studies (the first of Barry's and the one by Brown) show a raised incidence of loss by death both of mother and of father in the age period 5-9. Brown's study, but neither of the other 2, shows a similar finding for the 10-14 year age period. These findings suggest that during the long period from 5 to 14 years, which covers latency and early adolescence, loss of father by death is of about equal importance to loss of mother

by death as an antecedent of psychiatric illness.

Of the various psychiatric syndromes which, it has been suggested are associated with parental loss in the early years, Gregory concludes that the evidence is most substantial in the case of personalities prone to delinquent and psychopathic behaviour. I believe this conclusion well-founded.⁹ Evidence in regard to patients with depressive symptoms, however, especially those who are actively suicidal is strong also. In addition to the findings of Brown (which were not available to Gregory), there have been a number of reports linking early loss of a parent, both by death and other causes, with suicide or attempted suicide. Among the first to make this connection was Zilboorg (64); and there is a recent statistical study by Walton (63). Although Walton's figures go some way to support Zilboorg's hypothesis, unfortunately the form in which he presents them is such that they cannot be compared with those already given.

In considering the relevance of the statistical data to my argument certain doubts are likely to be in your minds. In the first place, it will be remarked, we must beware of the fallacy *post hoc ergo propter hoc*. In the second, even if we are right in claiming a causal relationship between early loss and subsequent illness, it does not follow that it is always mediated by means of the pathological processes that have been described earlier. There are, indeed, two other sorts of process which almost certainly give rise to pathology in some cases. One is the process of identification with parents, which is an integral part of healthy development but which often leads to difficulties after one of them has died.¹⁰ The other sort are

evoked by the surviving parent, widow or widower, whose attitude towards the child may change and become pathogenic.

There is another difficulty that the hypothesis must meet. Even if it is true that there is a raised incidence of death of parents in the childhood histories of individuals prone later to develop certain types of personality and certain forms of illness, its absolute incidence is nevertheless low. How, it will be asked, are the other cases to be accounted for? There is more than one possible explanation.

In the first place, in order to base my argument on firm evidence, I have deliberately restricted most of the discussion of statistical data to the incidence of parental death. When other causes of parental loss in the early years are included, as they are in the Glueck's study, the percentage of cases affected is greatly increased. Furthermore, for many of the cases in which there has been no episode of actual separation in space of child from parent, there is often evidence that there has nonetheless been separation of another and more or less serious kind. Rejection, loss of love (perhaps on advent of a new baby or on account of mother's depression), alienation from one parent by the other, and similar situations, all have as a common factor loss by the child of a parent to love and to attach himself to. If the concept of loss of object is extended to cover loss of love these cases no longer constitute exceptions.

It seems unlikely, however, that such an extension would cover all cases falling within the psychiatric syndromes concerned. If this proves to be so some other explanation for those not accounted for by the present hypothesis needs to be sought. Perhaps on closer examination the clinical picture of such cases will prove to be different in material degree from those that are accounted for. Alternatively, the clinical conditions may prove to be essentially similar but the pathological processes in cases not accounted for to have been initiated by events of a different kind. Until these and other possibilities have been explored problems will remain. Since, however, there is rarely a simple relationship between syndrome, pathological process and pathogenic experience, the problems are no

⁹ A recent study by Earle & Earle (17) shows that in a sample of 1423 psychiatric patients under the age of 60, examined by the authors in outpatient clinics, mental hospitals and general hospitals, 100 (7%) had suffered severe maternal deprivation before the age of 6 years, due either to death of mother (48) or to separations lasting 6 months or longer (52). Amongst the deprived the incidence of sociopathic personality was 27%; amongst the remainder 2.9% ($P < .01$).

¹⁰ Psychiatric disturbance in which identification with a lost parent plays a significant part has for long been a subject of study by analysts. It is particularly clear in anniversary reactions (32).

different from those which occur constantly in other fields of medical research.

CONCLUSION

It is probably true that by far the most research in the field of psychiatry today still starts with an end-product, a sick patient, and seeks to unravel the sequence of events, psychological and physiological, that appear to have led to his becoming sick. This results in many suggestive hypotheses but, like any single method of enquiry, has its limitations. One of the hallmarks of an advancing science is exploitation of as many methods as can be devised. When in physiological medicine research was expanded to include the systematic investigation of one or another probable pathogen and its effects, a great harvest of knowledge was garnered. Adolf Meyer, we know, looked forward to the day when the same would be possible in psychiatry. "When we know better what to look out for," he wrote in 1903, "we may undertake studies of *developing* abnormalities which are not insanity yet, and follow them out so as to accumulate material of *actual observation* on which to build a solid theory"

Because of its practical and scientific implications, the study of responses to loss of mother figure in the early years might have appealed to Adolf Meyer. On the practical side he might have been attracted by the vision of our becoming able to develop measures to prevent at least some forms of mental ill-health. On the scientific side he would, no doubt, have valued the opportunities that stem from the identification of an experience of childhood that is probably pathogenic, can be clearly defined, and the effects of which on the developing personality can be systematically studied by direct observation.

There are, of course, many other experiences of childhood besides loss that there is good reason to believe also contribute to the development of disturbed personality and psychiatric illness. Examples are the child's experience of one or another of the various sorts of parental attitude that have long been the subject of concern and therapeutic endeavour in child psychiatric clinics. For each the research task is, first, to define the experience, secondly, to locate a sample

of cases in which it is occurring so that its effects on psychological development may be studied, and, finally, to relate the processes that are found to be set in train by it to processes present in patients with declared illness. The consequences of such an expansion of research are far reaching. It is my hope that the illustration of its adoption that has been given will encourage others to try the same route.

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A PRELIMINARY REPORT ON THE CONTINUED POST-HOSPITAL USE OF TRANQUILIZING DRUGS¹

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For a number of years the ataractic drugs have played an important role not only in the treatment of the mental illnesses, but also in helping patients to maintain themselves after hospitalization (1, 2). The Minnesota Follow-up Study, a demonstration project sponsored by the National Institute of Mental Health and administered by the State Department of Public Welfare, was designed to investigate the personal and societal factors that effect the post-hospital adjustment of patients. In addition to information collected during hospitalization, follow-up data were collected on all patients at regular intervals after discharge by means of an interview with the patient, an interview with a relative or "significant other," and ratings made by the interviewer. In addition to information giving a measure of the "success" the patient has in maintaining himself in the community, a number of questions were asked to determine the use of tranquilizing medication during the post-hospital period. This paper is a preliminary report on some of the findings, covering the first 6 months after discharge of a sample of almost 150 patients.

The sample consisted of all patients released from one of the Minnesota state hospitals (Moose Lake State Hospital) returning to reside in St. Louis County. About half the population of St. Louis County, in northern Minnesota, lives in Duluth, the other half lives in smaller towns and rural areas. Medical facilities in St. Louis County, and especially in the city of Duluth, are probably a little better than average for a city of 100,000.

One of the purposes of the Minnesota Follow-up Study was to mobilize available resources in the County. Individuals and agencies in the County have been extreme-

ly helpful in providing assistance where needed: it can be said that for the majority of patients in the sample, it would have been possible to contact either a general physician or a psychiatrist, and it seems highly unlikely that anyone would have gone without medication because they could not afford to do so; public and other assistance was available for all patients in the sample.

The return rate for this sample was high: approximately 25% of patients returned to the hospital within 6 months. The information from the follow-up interviews concerns, therefore, only those who managed to maintain themselves at least 6 months. There are indications in this study that 2 important factors contributed to early re-hospitalization. One was the "well-being" of the patient himself, how well he was functioning in the community, how well he came up to expectations in the community, *etc.* The other factor was the "tolerance of deviance" of relatives and significant others: the more tolerant the relatives were of deviant behavior in general, and the behavior of the patient in particular, the less chance he had to be rehospitalized. Probably as a result of the importance of this second factor it was also found that patients who after their release lived in a foster or boarding home, with unrelated others, were rehospitalized significantly less frequently than those who lived with their spouse, parents, or relatives. Other factors, such as age, I.Q., psychiatric diagnosis, clinical prognosis made in the hospital, and certain psychological factors were shown to have a very tentative effect on subsequent rehospitalization.

The Minnesota Follow-up Study staff was active with approximately half of the sample in an intensive casework relationship. Considerable efforts were made, for instance, with this "experimental" group to get them to see their doctors. Although the staff members would not, of course, actually urge the patient to continue to take his

¹ The Minnesota Follow-up Study, of which this investigation was a part, is administered by the Minnesota Department of Public Welfare, and supported by a grant (OM-29(C2)) of the National Institute of Mental Health.

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medication, or take it more regularly, nevertheless the patient would be urged to follow his doctor's prescriptions as closely as possible. In the majority of cases, too, the staff members would be in close contact with the physician, so that he had significantly more information on patients in the experimental group than on patients in the "control" group.

Evidence collected suggests that the activities of the staff with the experimental group, including not only the work with the physician but with a great variety of agencies in the community, was "successful" in that the return rate for this group was significantly reduced, compared to the control group. At the same time it seems that, although the staff members were moderately successful in preventing rehospitalization in a number of cases, no significant improvement could be obtained in the "well-being" of patients in the experimental group. This does not mean, however, that generally the group interviewed 6 months after discharge (the third interview) was not doing better than the group interviewed immediately upon discharge: at the time of the third interview a significant selection had already taken place so that on an average the patients who were able to maintain themselves in the community at least 6 months were doing slightly better than the average of all

patients interviewed immediately upon discharge.

RESULTS

Almost 75% of all patients interviewed immediately upon discharge report that the State hospital had prescribed tranquilizing drugs for the post-hospital period. A complete breakdown of medication and dosage is not available as yet, but from preliminary analysis it appears that the majority of discharged patients continue on chlorpromazine, on dosages of from 100 to 400 mgm. (4). The great majority of interviewees reported that they were taking the medicine: and the great majority reported that they were taking it regularly (Table 1).

As time goes on, and as the sample is reduced by the rehospitalization of those who cannot maintain themselves in the community, the percentage of patients reporting that someone is prescribing tranquilizing drugs for them is increasing, although the percentage reporting that they are actually taking the medicine and taking it regularly is decreasing! It seems unlikely that the significant and progressive reduction of the percentage who do take tranquilizing medicine regularly is a result of a significant increase in their "well-being." From other measures it appears that the increase in "well-being" is slight, so that the consider-

TABLE 1

Percentage of Discharged Patients who Indicate They Continue on a Tranquilizing Drug Regime, Immediately After Discharge and 6 Months after Discharge

	IMMEDIATELY AFTER DISCHARGE	SIX MONTHS AFTER DISCHARGE
Patients report that tranquilizing drug is prescribed:	74.4% (N = 145)	82.6% * 1 (N = 109)
Patients report they are taking their medication:	83.6% (N = 122)	65.8% ***2 (N = 73)
Patients report they are taking medication "regularly":	92.0% (N = 115)	82.9% * (N = 63)

1 The attrition in the size of the sample interviewed 6 months after discharge is caused by rehospitalization of some patients, as well as by patients moving away from the area.

2 Not included are a number of patients who did not respond.

* difference significant at .05.

*** difference significant at .001 or better.

able decrease in the proportion of people continuing to take their medication must probably be attributed to other factors (Table 2).

the post-hospital period, and though apparently many community physicians also prescribe such treatment for discharged patients, the results, from this study at least, do

TABLE 2
The "Total Well-Being Score"* 8 Months After Discharge

Patients continuing to take tranquilizing medicine regularly, at least 3 times a day :	3.62 (N = 29)
Patients continuing to take tranquilizing medicine, but irregularly, or infrequently :	3.59 (N = 42)
Patients not continuing on tranquilizing medication :	3.85 (N = 37) NS

* The "Total Well-being Score" is a compound rating, based on 5 scales, each giving an evaluation of a patient's functioning in a particular area of behavior (non-instrumental performance, instrumental performance, fulfillment of role expectations, function impairment, subjective well-being). Low score signifies "better" adjustment, more normal behavior.

Hospital records for the past several years show that with the introduction of the ataractic drugs there was a significant increase in the discharge rate. Tranquilizing medicine administered in the hospital has made patients more manageable, made it possible to discharge more patients and to discharge them earlier. Even though there is obviously a tendency on the part of the hospital physician to prescribe tranquilizing drugs for

not show the effectiveness of such medication after discharge. There is no significant difference between patients who do and those who do not continue on tranquilizers, either in terms of their rehospitalization or of their observable behavior ("adjustment"). A tentative conclusion, based on information obtained in this study, may be that tranquilizers "help" the patient in the hospital, speed his discharge, but that after

TABLE 3
Patient's Report of Method of Obtaining Their (Tranquilizing) Medication

	IMMEDIATELY AFTER DISCHARGE	SIX MONTHS AFTER DISCHARGE
"Who prescribes for you?" :		
Moose Lake State Hospital :	49.2% (N = 60)	17.3% *** (N = 13)
local physician or clinic :	32.8% (N = 40)	61.3% *** (N = 46)
local psychiatrist or psych. clinic :	9.0% (N = 11)	14.6% ** (N = 11) ¹
local psychiatrist, Experimental group :		17.1% (N = 6)
Control group :		12.5% (N = 5)
local physician, Experimental group :		57.1% (N = 20)
Control group :		65.0% (N = 26) NS

¹ Percentages do not add up to 100, because omitted were responses of patients who did not know who prescribed for them.

** difference significant at .01.

*** difference significant at .001 or better.

discharge psychological and societal rehabilitation apparently play a greater role than drugs in furthering his recovery(3).

It is interesting to note that where within the first month of discharge (first interview) almost half of the patients indicate that they receive their tranquilizing medicine on a prescription given by the hospital, even after 6 months there is still a significant number (17%) who report that they receive their medication from a hospital prescription (Table 3).

It must be remembered that this information is obtained from the responses of the patients, and that there is always an element of unreliability in this information. However, the follow-up interviews were designed to provide a maximum reliability by eliminating as much as possible ambiguous or anxiety-provoking questions. There is no reason to assume that the 17% of the sample who responded that even after 6 months they received their medication on a hospital prescription spoke untruthfully. The staff was well aware that there are pharmacists who will continue to refill prescriptions written a long time ago. There is a change also in the proportion of patients who report that they receive prescriptions from physicians in the community (immediately upon discharge, 1/3 of all patients interviewed, of those interviewed 6 months after discharge, almost 3/4 so reported). It is interesting to note also that patients in the "experimental" group showed a higher percentage receiving a prescription from a psychiatrist or a psychiatric clinic; a somewhat larger percentage of the "control" group reports that they receive their prescriptions from general physicians.

Among those who report that they are no longer taking the medication prescribed by the hospital, an ever increasing proportion reports that this is because there is "no need" (Table 4). This may mean either that

a physician has so advised or that they have themselves so determined. The latter seems more likely as only about 50% indicate that they have seen a physician in the recent past. Corroborating evidence can be found in the increasing percentage of patients who report that they do take tranquilizing medicine, but not "regularly." These include those who take medicine "occasionally," "for a day at a time," "when needed," "when I remember to," etc. This suggests that patients who do continue to use tranquilizing medicines after their discharge from the hospital do so less and less regularly as time goes on, that more of them feel they can be the judge as to when and how often they should take their medicine.

The information collected suggests that patients in the experimental group, who received considerably more follow-up care, tend to rely on their own judgments less, and to follow the advice of their physicians more (Table 5). It should be stressed again that the follow-up care provided for these patients was mostly in terms of "keeping in touch with" them. The professional workers (social workers, a psychiatrically oriented public health nurse, and a psychologist) made a point of seeing patients on a regular basis and directing them to individuals and agencies in the community who were able to provide the needed services.

SUMMARY

A sample of patients discharged from a state hospital was interviewed at regular intervals; this preliminary report includes information obtained at the 6 months' follow-up. In addition to an evaluation of observed, objective well-being ("adjustment"), information was obtained from the patients concerning their continued use of tranquilizing medicine.

1. A very large percentage of patients are discharged with the recommendation that

TABLE 4
Percentage of Patients no Longer on Tranquilizing Drugs who Indicate There is "No Need"

	IMMEDIATELY UPON DISCHARGE	SIX MONTHS AFTER DISCHARGE
"If you are no longer taking medicine, why not?":		
"No need":	38.5% (N = 10)	53.7% NS (N = 22)

TABLE 5
Percentage of Patients who Continue to Take Tranquilizing Medicine "regularly" in the "Experimental" and "Control" Groups

	SIX MONTHS AFTER DISCHARGE
Continue "regularly" :	
Experimental group :	88.6%
Control group :	78.0% NS
*Both groups combined :	82.9%
	(N = 115)

they continue on a regime of tranquilizing medication.

2. As time goes on, the percentage of patients who follow this advice decreases significantly, and even those who report that they continue to use the tranquilizing drugs become less "regular" in their medical regime.

3. In this study no conclusive evidence could be found that patients remaining on a tranquilizing drug did any "better" than those who did not: there is no significant difference in the rehospitalization rate, nor is there a significant difference in their observable functioning in the community. Therefore where the tranquilizing drugs have shown their effectiveness in the hospital, for the post-hospital period other means than purely medical treatment seem more effective in promoting recovery.

4. Many patients seek the advice of a physician in the community, under whose care they continue their tranquilizing drug regime. Nevertheless, even after 6 months, there is a significant number who apparently

can get their original prescriptions refilled for a long time without the supervision of a local physician.

5. The study was able to show that with relatively little effort on the part of a few professional workers with discharged patients, a closer cooperation with local individuals and agencies (physicians, psychiatrists, clinic, etc.) can be obtained, showing as a result a higher percentage of patients who continued to take prescribed drugs as well as a higher percentage who take them "regularly."

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EXPERIENCE WITH PROMAZINE

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It may be said with some justification that the phenothiazine group of drugs plays an important part in the treatment of psychiatric disorders, this being specially so in psychiatric hospitals where chronically disturbed patients are treated. Promazine or Sparine is one of such phenothiazine derivatives. Its range and degree of effectiveness are still under discussion and opinions vary.

Pharmacology of promazine is only meagerly known, but its activity appears to be similar in range and location to chlorpromazine though weaker(15). Animal experiments suggest that neuronal activity is inverse to local A.T.P. concentration. Like chlorpromazine, but to a lesser degree, promazine increased A.T.P. concentration in thalamic and hypothalamic areas of cats, thus suggesting that it decreases neuronal activity in these areas(12). Also like chlorpromazine it subdues excited animals but unlike it, it does not cause sedation(4). Repeated clinical reports about its usefulness in states of excitement, and tension in patients and lack of drowsiness during its administration lend support to these experimental findings. Its ability to reduce anxiety and psychomotor activity is attributed to its inhibitory action on subcortical levels. It is also suggested that the drug blocks reflex patterns originating in the reticular formation. It raises the pain threshold blocks alerting reaction to pain in rabbits, and also causes emotional detachment to pain. This may account for the beneficial effects of the drug in organic pain syndromes(17).

Results of promazine therapy in psychiatric practice vary a good deal. However, literature suggests that the drug can be used effectively in various disorders where chlorpromazine is indicated. Studies of its application in the treatment of neuroses are scarce and are so far not encouraging(25). Given intravenously it is said to be very effective in the treatment of withdrawal symptoms of alcoholic intoxication.

Toxic Effects : With experience growing, undesirable side effects of the drug are coming to light. Transient orthostatic hypotension, dizziness, generalized tremors are not uncommon, and occasional G.I. tract irritation, dermatitis and hyperpyrexia have been observed.

Vascular collapse terminating into death though rare has been observed (Sainz) and on the basis of experience with nearly 2,500 patients, Shea, *et al.*, think it inadvisable to administer the drug to patients with impending vascular collapse. We have seen an aged man with arteriosclerosis and hypertensive heart disease go into an irreversible cardiovascular collapse and die while receiving promazine in 300-400 mg. a day orally. Peripheral arterial thrombosis has been reported in two patients following I.V. administration of the drug(20).

Toxic confusional state has been known to occur(16). Pai(21) has reported development of a picture resembling pseudo-bulbar palsy and Parkinsonism combined in a man receiving only 25 mg. t.d.s. of promazine for less than a week. Hare(13) has reported development of an unusual dystonic syndrome in a patient receiving the drug. A small proportion of patients receiving over 1,000 mg. of the drug orally per day are known to develop grand mal seizures(16, 3, 26, 18). Experience of Donald McLean, *et al.*(19), suggests that the risk of G.M. attacks is greater in patients with a history of convulsions(19). Shea, *et al.*(26), advise prophylactic use of anticonvulsant drugs where there is history or likelihood of reduced excitability threshold of CNS. We have not come across clinical evidence of epileptic seizures in our series. Agranulocytosis, though rare does occur. We have analysed available data on 8 reported cases. In summary, it appears that occurrence of agranulocytosis has little relationship to method of administration, dosage, and duration of treatment. It occurs usually in patients over 50 (6 out of 8 cases—ages of two others not known) and women seem to be favoured. Mortality is rather high despite treatment (3 out of 6 women and

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none out of two men).

Although some of the complications of promazine therapy are serious, they are not common. On the other hand the drug is relatively free of complications like Parkinsonism, jaundice and distressing drowsiness which occur with other phenothiazines and some of them even with Rauwolfia alkaloids.

We present here data on our experience with promazine at Cane Hill Hospital. They are derived from a triple blind trial with chronically disturbed female patients; and from the review of clinical records of all the male patients treated with this drug. This latter part of data is presented under the heading "Uncontrolled Trial."

TRIPLE BLIND TRIAL

Population : The trial started with 25 patients but 4 were omitted because they required change of treatment.

These 21 patients suffered from schizophrenia of various types. The diagnosis of schizophrenia was based on the criteria enumerated in *Textbook of Psychiatry* by Meyer Gross, Slaters and Roth, 1954.

In the past, 8 of these patients had received one or more of the following physical treatments : E.C.T., leucotomy, deep insulin and lately all of them had prolonged trials (not less than 12/12) with chlorpromazine or Pacatal. No treatment had brought about any lasting or marked improvement.

The age range was from 37 to 67 years. None had been in this hospital for less than 8 years and all had been in the same experimental ward for more than a year. In all, 4 or more of the following, dominated their clinical picture : 1. Physical or verbal aggressiveness ; 2. Uncooperativeness or obvious negativeness ; 3. Social withdrawal including mutism ; 4. Evidence of excitable or impulsive behaviour ; 5. Mannerisms ; 6. Hallucination, visual or oral ; 7. Delusions ; 8. Urinary incontinence.

Environment : The patients formed part of the total population of 90-100 patients in a close ward. Occupational therapy was provided in and out of the ward. Patients enjoyed freedom to go out of the ward if their clinical condition made this possible, but these 21 patients in the trial did not leave the hospital premises, and only on rare occasions did they have visitors. The ward was

run by one ward sister, and 2-3 nurses on each shift. The hospital works 2 day shifts. The sisters of the ward and the doctor in charge remained unchanged for at least a year before and during the trial.

Method : The environment of the ward was as constant as possible. All medication and physical treatments were withdrawn for about 3-4 weeks before the trial. During it any other medication or physical treatment was withheld except very occasional administration of sedatives (sod. amytal or paraldehyde) at nights. Before the trial the patients were told they were going to have a new treatment. The possible side effects and toxic effects of the drug were explained to the nursing staff ; they were also told that the trial would be blind and that their accurate observations were very important. It may be said that the staff has had good experience with drug trials. A few days before the trial patients were examined by the ward doctor who selected them if they satisfied the criteria mentioned. Once these patients were seen, the ward sisters and the doctor selected the 25 patients for whom the ward sisters pleaded treatment. These patients presented no signs of any physical illness.

Administration : The drug was administered orally in 300 mg. dose daily. The trial was divided into two parts ; the first part lasted 5-6 weeks, the second 10-12 weeks. For the first 3 weeks the patients received placebo or active drug and for the next 3 weeks changed over to active drug or placebo ; the patient thus acted as his own control. During this part of the trial the identity of the medication was unknown to the doctor, the nursing staff and the patients. The pharmacist alone knew what the patient was getting. This period was followed by the second. Everyone concerned knew the patient was getting the active drug, the administration of which is summarized below.

Part 1 *		Part 2 **	
	3/52	3/52	10-12/52
Patient A	Active	Placebo	Active
Patient B	Placebo	Active	Active

* Identity of the Drug-Known only to the Pharmacist.

** Known to everyone concerned.

Records : The ward sisters and the doctors independently kept data on clinical condition and side effects. The ward sisters recorded, every week, the clinical condition of the patient on a specially devised item sheet with 28 items, each item rated on a 3-point scale. The doctor made notes on the clinical state before start of the trial, before change-over of the drug and at the end of the trial. We tried to interview the patients' visitors in order to get their opinions on the patients' condition; however, these were sporadic, so the idea was dropped.

Results : At the end of the trial it was found that none of the 21 patients showed any noticeable improvement. Some patients, however, did show some transient changes. An abusive, impulsive patient became less so. One patient emerged out of her depressed mood and became elated. One patient stopped picking hair from her scalp. Two patients became more co-operative. One became more agitated and started stripping herself. No side effects were observed but no regular pathological investigations were carried out.

UNCONTROLLED TRIAL

Our disappointing results with the controlled trial were indirectly responsible for the lack of enthusiasm for use of this drug on more female patients. But on the male side of the hospital the drug had been tried for quite a while before our trial began. We were aware of the various reasons why the drug did not prove effective on the female population, e.g., the patients were chronic and therapeutically rather discouraging; the dosage might not have been sufficient; the female patients might be more resistant than the male patients, etc. Therefore we set out to compare the results with the effects of this drug on male patients.

Population : The 45 male patients were divided into 2 groups on the basis of the duration of present attack of illness : Group A—24 patients with duration less than 15 months; Group B—21 patients with duration more than 15 months. Criteria for the selection of male patients cannot be given precisely because the trial was not a planned one. The main aim was to try the drug on various psychiatric disorders where it was claimed to be useful. Of the 21 pa-

tients in group B, 18 suffered from various types of schizophrenia (mainly paranoid) and their clinical picture was dominated by the following effects : hallucinations, mainly auditory; delusions, mainly persecutory; excitable or aggressive in behavior. The remaining two suffered from mania or hypomania and one from recurrent agitated depression. Of the 24 patients in Group A, 3 had been ill for 7 to 15 months and the other 21 had been ill for 1 to 6 months. Diagnostically they fell into the following groups : depression (endogenous)(3); mania or hypomania(19, 20, 29); schizophrenia(1, 6, 7, 8, 9); schizophrenia paranoid(11, 12, 18, 24, 27, 33, 34, 35, 37); schizophrenia catatonic(13); paranoid state(12, 21, 22). Only 4 of them had had any physical treatment in the past, and they were among the group who were ill for more than 7 months. The rest had had no other treatment for their present attack before starting promazine.

Environment : While the Group B patients had a more or less stable ward environment, the patients in Group A were shifted more often. Depending on their condition, they would either be in a closed ward with close supervision and provided with recreational and occupational therapy facilities, or they were in an open ward with better nursing, occupational and recreational facilities and a permissive atmosphere regarding their movements in and out of the ward.

Method : We collected all available data on the male patients who had been tried on promazine. They were collected under the following headings : Diagnosis; previous mental illness and its outcome; duration of present attack and its response to various treatments in the past; clinical condition before starting promazine; dosage and duration of promazine treatment; effects of promazine treatment; and 6 months follow-up after discharge from hospital.

Administration : In all there were 45 patients (male), who received promazine; 42 received the drug for 3 months to a year. It was administered orally, 300-500 mg. doses a day. There was no attempt to control the effects either by comparing it with placebo or with any other drugs. No other treatment accompanied promazine therapy except

night sedation (sod. amytal) when needed. In fact, we excluded those patients who received promazine and some other form of treatment, e. g., E.C.T.

Records : Weekly notes on Group A and monthly notes on Group B were maintained by the ward doctor.

Results : From the data we collected it became evident that as far as chronic patients (Group B) were concerned, there was no noticeable or lasting improvement. However, of 24 patients in Group A, 6 recovered from their present attack; 5 remained well during the follow-up period; one relapsed 3 months after discharge. One patient improved but not enough to warrant discharge. Below are some relevant points in the history and clinical state of the 6 patients in Group A.

Key to Histories : P.M.H.—Previous mental health; D.A.—Duration of recent attack; C.S.—Clinical state (main features); T.—Treatment; R.—Result; F.U.—Follow-up; D.—Diagnosis.

C.J.S. : aged 29. P.M.H.—no illness known. D.A.—1 year(?), C.S.—grandiose attitude and ideas, aural hallucinations ++. No insight. D.—schizophrenia. T.—promazine 100 mg. t.d.s. for 6 months. R.—markedly improved in all symptoms. F.U.—3 months later relapsed and re-admitted with grandiose and other ideas and delusions; ideas of influence and aural hallucinations.

C.R.P. : aged 31. P.M.H.—attack similar to present one in 1954; garrulous hallucinations +. D.—schizophrenia. T.—promazine 200 mg. t.d.s. for 5 months. R.—no hallucinations; co-operative, reliable kitchen worker, but facile and flat in expression. Still in hospital having promazine.

P.A.W. : aged 30. P.M.H.—sociable, cheerful, popular, similar attack 1954-1955. D.A.—1 week, C.S.—tense, suspicious, aggressive, paranoid delusions ++ not systematised, no insight. D.—paranoid schizophrenia. T.—promazine 200 mg. t.d.s. for 4 months. R.—symptom free. F.U.—keeping well, takes Sparine.

D.T. : aged 60. P.M.H.—always nervy, could not keep jobs. D.A.—6 months. C.S.—depressed, agitated, suspicious, quarrelsome. D.—endogenous depression. T.—treated with 6 E.C.T. without effect. Then promazine 50 mg. t.d.s. for 6 months. R.—symptom free. F.U.—working and keeping well.

E.R. : aged 63. P.M.H.—sociable, liked changing jobs, many attacks in the past similar to present one. C.S.—elated ++ impulsive, no

insight, flight of ideas ++, garrulous. D.—hypomania. T.—promazine 100 mg. t.d.s. for 3 months. R.—markedly improved but inclined to be elated and garrulous. Working and keeping well.

P.R. : aged 31. P.M.H.—poor social mixer, difficulty in holding jobs. D.A.—3 months. C.S.—hallucinated, ideas of influence, catatonic excitement. D.—catatonic schizophrenia. T.—promazine 200 mg. t.d.s. 3 months. R.—symptom-free. F.U.—2 slight relapses coinciding with stopping Sparine. Resumed Sparine; recovered; working well.

M.G. : aged 50. P.M.H.—friendly; inclined to be aggressive; attacks similar to present one in 1954 and 1957. D.A.—1 year. C.S.—aggressive and truculent, overactive, ideas of reference +. D.—paranoid psychosis. T.—promazine 150 mg. t.d.s. for 1 year. R.—no ideas of reference, not overactive, inclined to be hostile. F.U.—keeping very well on Sparine 50 mg. t.d.s.

DISCUSSION

Our experience with this drug in the treatment of disturbed patients suffering from schizophrenia is not encouraging. This is at variance with many other investigations. We hope that the reasons for this apparent discrepancy will become obvious in the following :

1. Objective procedures for the evaluation of treatment are rarely utilized. Among the 30 papers studied we found that Sibilo, *et al.* (27), were the only investigators who used statistical methods; it is interesting to note that the slight change noticed in their population was not significant. The possibility of this being due to chance could not be excluded.

2. Blind trial procedures utilising placebos are scarcely utilized. Sibilo, *et al.* (27), Simpson and Jesson (28) used this procedure and it is worth recording that none reported significant improvement with this drug.

3. Little attention appears to be paid to the environment in which the experiment is carried out (1, 2, 9, 10). S. M. K. Frain (30) describes environment of patients in some detail but unfortunately does not differentiate between the effect of environment from that of the drug.

4. There is virtual absence of data about ancilliary treatments; these can influence the results a good deal.

5. Follow-ups are rarely reported. This

we feel is specially important when clinical improvement is attributed to the drug. It is well known that initial good results prove fallacious if patients are followed up long enough.

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ACUTE PORPHYRIA PROVOKED BY BARBITURATES GIVEN WITH ELECTROSHOCK THERAPY

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There is much literature on different aspects of porphyria and its manifestations; according to Remmer(1), Baumstark was the first who, in 1874, was able to prove the presence of porphyria in the urine of a patient.

Since this time numerous studies were published, and the classification of porphyria proposed many years ago by Gunther(2), has been widely used. Gunther's differentiation between porphyria congenita, acuta, and chronica, is somewhat conflicting; therefore, the classification of Watson(3): (a) photo-sensitive, (b) intermittent acute and (c) mixed, seems to be more realistic. As the name indicates, the intermittent acute form (the most common one) is characterized by individual attacks of longer or shorter duration with different periods of remission, during which the patient is free of symptoms. It is not the purpose of this paper to give a detailed classification and description of the variety of the clinical forms of porphyria, which are widely known in internal medicine and neurology. I would only like to mention 2 interesting cases which I could observe as a resident in internal medicine in 1956.

One is a 25-year-old white man, a Polish immigrant to the U.S.A., who had had a gastrectomy for peptic ulcer in 1952 and later suffered from "uncertain, unpleasant, colic-like cramps of the abdomen." All studies, except porphyria, were negative; and the same results were found in a 45-year-old, single, white woman whom I saw on two occasions with complaints of severe precordial pain and absolutely negative EKG studies. This lady also had high porphyrin values in her urine. Both of these cases were seen by consulting neuropsychiatrist and classified respectively as anxiety reaction and hysteria.

The psychological and neurological changes in a patient with porphyria have been described very thoroughly by Schmidt(4) in 1952, and one year later, Hare(5)

reported 2 cases of acute porphyria with mental symptoms (toxic confusional psychosis, and the second one, post-operative depression with pain and weakness suggestive of hysteria). In the same year, Olmstead(6) pointed out "the psychiatric syndrome is the common denominator of this disease, being present to some degree in all phases of the illness. Although it in itself is not diagnostic, the psychiatric aspects, plus severe abdominal complaints and the superimposition of neurological findings, should strongly point to the need for testing for abnormal amounts of porphyria in the urine."

Electroshock treatment for porphyria with psychotic symptoms was described by Lemere(7), who cured 2 patients with this treatment in 1954. The following is a description of my own case, in which a probably existing porphyria, masked under the appearance of hysteria, with depressive overlay in a basically schizoid individual, became manifest during the course of EST given with barbiturates as pre-medication. There is evidence that different drugs, especially barbiturates, are, at times, active in precipitating attacks of porphyria.²

M. L., a 21-year-old white girl, was admitted to the psychiatric ward of a private hospital on March 29, 1958, with the following chief complaints: nausea, vomiting, backpain, weakness and depression. Two weeks earlier, the patient underwent, in a different hospital, a pre-sacral neurectomy with D & C for severe primary dysmenorrhea, the history of which extended back to her menarche at age 13. Her periods had always been very irregular, associated with general malaise, and once (from the fall of 1957 to January of 1958) there had been an amenorrhea of 5 months duration. Following the gynecological operation the patient developed acute

² Waldenstroem(8) was able to demonstrate an attack of porphyria following the intake of barbiturates. He gave barbiturates to an individual who had never had previous attacks, but whose latent porphyria was discovered when his sister's manifested porphyria led to the study of other members of the family. After an intake of barbiturates, he developed acute porphyria.

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hysterical and psychotic (confused) episodes during the immediate anesthetic recovery period. She was discharged from the hospital and immediately the symptoms of emotional disturbance progressed in severity at home. The symptoms which precipitated hospitalization to the psychiatric unit were: withdrawal, with hysteric manifestations, such as rolling eyes and refusing to speak. In addition, the patient was suffering from insomnia and refused to eat.

Two days prior to her admission, medication was initiated by her family physician with meprobamate 400 mg. t.i.d., and she received some form of "supportive therapy." Further significant medical history included measles, chicken-pox and mumps in early childhood and a T & A at age 9. At 14 years the patient was injured in an accident while riding in a horse-drawn cart, resulting in a head contusion with unconsciousness for 2 hours. No doctor was called. The patient was the second youngest in a family of 5 children. The parents' marriage, despite the fact that her father was 20 years her mother's senior, was a stable one. The most significant relationship with the family was a rivalry with her younger sister, 16 at that time, who appeared to the patient to be "more beautiful and successful socially" than the patient. Our knowledge of the sister was limited, except for information that at the time of the patient's hospitalization the sister was illegitimately pregnant, and there were indications of a considerable degree of promiscuity on her part.

The patient had had no hetero- or homosexual experiences. Her ability to relate with her peers was impaired. She graduated from high school and was employed as a typist. On admission the patient was very anxious, apprehensive, whining and demanding that the therapist help her. The physical examination was essentially negative, showing only a slight enlargement of the thyroid gland, tachycardia 120 per minute and a milky discharge from the breast. Her abdomen was moderately tense, the postoperative scar slightly tender, and the patient was menstruating. The skin was dry and dehydrated, the physiological reflexes were hyperactive, but still within normal limits. Two chest x-rays were negative, and the skull examination did not reveal any erosions, or evidence of intracranial pressure. Sella turcica and basilar structures were reported as normal. An EKG obtained a few days later showed sinus tachycardia, marked muscle tremor and PR 0.18, QRS 0.08. Spinal puncture and subsequent evaluation were normal with no cells in fluid. Blood and liquor serology were negative. RBC was 4,180,000; WBC was 7500

with 65 segm.; 35 ly, Hb 78% equal to 11.7 gms., microhematocrit 38.

Due to symptoms of dehydration and refusal to eat, administration of parenteral fluids (glucose in NS.) was carried out. The patient was placed on amo- and secobarbital sodium 3 grains at h.s. for insomnia, and meprobamate was replaced by phenothiazine hydrochloride 50 mg., I.M. daily because the patient refused to take medication orally. This was also the reason that on April 2, she received her first EST as a treatment of choice. The preparation was seconal grains 1½, given to her the night before, and immediately prior to the ESTs, she received diacetylcholine chloride 20 mg. and thiamylal sodium 5 cc. I.V. In 2 subsequent days the patient received 2 additional treatments, and because the electrolytes showed low potassium levels, 3.4 (normal 4.1-5.6), she was placed on potassium chloride grams 1 q.i.d. on April 4, which she continued to take. An LE examination was negative, repeated blood studies were about the same. On April 6, the second urinalysis, when compared with the first one which was negative, showed 2 plus albumin with WBC 20-30 and rare erythrocytes. Following the third EST on April 4, the patient received, in addition, 5 more convulsive treatments, making a total of 8. No beneficial results were obtained from the course of ESTs and the patient felt increasingly miserable.

Quite by accident, a red color of the urine was observed, and the test for porphyria was positive on April 16. It was decided to stop ESTs immediately, phenobarbital, its derivatives and aspirin. The medication was changed to chlorpromazine 25 mg. q.i.d. and 25 mg. I.M., p.r.n., B-12 1000 micrograms I.M. and versenate 0.5 grams q.i.d. (April 18, which was doubled 2 days later). The porphyrine in the urine on April 17 was positive; on April 21, positive; and on 3 following examinations; April 25, April 28 and May 1, negative. All hysterical symptoms disappeared, and the patient started to walk around, to eat properly and to socialize with other patients. She was discharged as improved on May 2, 1958. Recent contact with her has confirmed her continued health and ability to work.

CONCLUSION

Porphyria in a patient can, under certain circumstances, especially when under barbiturates, produce symptoms of an emotional disorder, which do not respond to the psychiatrically oriented therapies, but must be treated medically. There is a possibility

that in many cases diagnosed primarily as "mental disorder," "hysteria" or other "emotional disturbance," a hidden factor of porphyria exists, which can be easily determined by laboratory testing. It is needless to state that this evaluation could be beneficial in the successful diagnosis and treatment of some patients now in mental hospitals.

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CHILDREN OF SCHIZOPHRENIC PATIENTS: PRELIMINARY OBSERVATIONS ON EARLY DEVELOPMENT

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Several reports(1, 2) indicate that an extremely high percentage of newborns of 2 schizophrenic parents will show signs of emotional disorder in later life. We assumed that some of these newborns would show signs of emotional disorder in their infancy. A second assumption we made was that the behavior of their schizophrenic parents would be at least partially responsible for the emotional disorders anticipated in some of these infants. With these two preliminary assumptions in mind we chose to follow a small group of newborns of 2 schizophrenic parents from birth onwards. Our primary goal was to observe directly the parental behavior leading to the emotional disorders expected in some of the infants. We hoped that from such observations we might be able to identify specifically what in the behavior of a parent precipitates early emotional maldevelopment. Our two preliminary assumptions were supported by the data as it emerged. We felt that our data would be of additional interest in that: 1. To our knowledge no formal, direct observations on how schizophrenic parents care for their infants have been previously reported and 2. No study which goes in any detail into the early development of children with 2 schizophrenic parents has been previously reported. One reason that such data has not been reported must be due to the difficulty in locating and following newborns of 2 schizophrenic parents. The method we employed in finding our case material was as follows:

Pregnant women with the diagnosis of schizophrenia were located in 4 local New York State Department of Mental Hygiene after-care clinics and in 7 local state hospitals. These women were interviewed by the investigator to check the diagnosis. If the diagnosis of schizophrenia was confirmed, the putative fathers were located

and interviewed. Paternity was established on the basis of clear-cut statements by both mother and father. Cases in which promiscuity was suspected were excluded. Our criteria for the diagnosis of schizophrenia were very rigid. Pseudoneurotic schizophrenics were not included. Since we were looking for psychopathology in offspring as reported by Lewis, Kallman, *etc.*, we had to be certain that we were selecting the same kinds of parents as were selected by these authors. Each of the parents chosen had been hospitalized in either a state or Veterans Administration mental hospital on at least one occasion prior to our study. It took almost 2 years drawing on a population of approximately 65,000 hospital and after-care clinic patients to locate 8 cases in which we were certain that both expectant mother and father were schizophrenic.

After birth, each infant was observed in the neonatal period. Of the 8 cases followed, 4 infants (born to inpatients) then went to foster homes where they were followed with the permission of the various placement agencies. The remaining 4 infants (born to after-care clinic patients) went home to their original schizophrenic parents where they were then followed. This neat division in which 4 infants went to foster parents and 4 infants went to their schizophrenic parents was unplanned and was to prove quite useful to us. Monthly observations (occasionally more frequent) were made in the mother's or foster mother's home beginning in the third week of the infant's life. The observations were carried out by a psychiatrist trained in pediatrics, child psychiatry and psychoanalysis. The home visits were 1-3 hours in duration, varying with the circumstances in the home at the time of the particular visit. The investigator's effort was to fit his observations in the natural schedule of the family as much as possible. He would frequently arrive at times when feeding and bathing of the infant were likely to take place. A rou-

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tine pediatric examination was often done which required the mother to undress and dress the child and thus to some degree interact with the infant. On occasion the schizophrenic mothers were observed in the Family Study Unit of the New York State Psychiatric Institute. The latter is an observation unit which consists of a kitchen, living room and combination nursery-playroom. The following is a report of our preliminary findings :

Three of the 4 newborns who went to their original schizophrenic parents developed clear-cut signs of emotional disorders in infancy. None of the 4 newborns of 2 schizophrenic parents who went to foster parents developed any such clear-cut signs of emotional disorder in their first 18 months of life. Since all 8 infants had a "common heredity for schizophrenia" and yet only the infants reared by schizophrenic mothers (3 of 4) showed clear-cut signs of early emotional disorder, the data supported our original assumption that the emotional maldevelopment observed in these infants was at least partially due to the behavior of their schizophrenic parents. What then in the parental behavior of the 3 schizophrenic mothers might have been responsible for the symptoms of emotional disorder observed in their infants? To answer this question we tried to determine how the parental behavior of these 3 schizophrenic mothers differed from the parental behavior of the foster parents and the fourth schizophrenic mother whose infants did not develop clear-cut signs of emotional disorder. Cases I, II and III consist of our observations on the parental behavior of the 3 schizophrenic mothers which led to disturbance in their infants and which stood out in striking contrast to our observations on the foster parents and the fourth schizophrenic mother. Case IV is a brief summary of relevant observations on the fourth schizophrenic mother. More detailed descriptions of the emotional maldevelopment of the infants are also included. The infant observations reported are those which stood out in clear contrast to our observations on the infants reared by the 4 non-schizophrenic mothers.

Case I. Mother : Mrs. Z. was a 25-year-old

negro woman. She had been hospitalized on two occasions prior to our study with a diagnosis of schizophrenia, catatonic type, with marked depressive features. Mrs. Z. was the only one of the 4 schizophrenic mothers followed who was resistive to any real cooperation with our study. She would frequently forget and/or break appointments. She was chronically depressed, withdrawn, "shy," and evasive. The striking features of her interaction with her infant were the following : She was consistently depressed and rarely if ever did she play with her infant. She engaged in very little sensory or motor stimulation of the baby. She showed no warmth in her attitude except for a slight smile when the observer made a pleasant remark about the baby. The mother responded to the infant's physical needs effectively and appeared to appropriately judge the baby's needs. The physical care Mrs. Z. gave to her infant was performed quite proficiently but with an absence of any "positive" feelings, i.e., the smiling, warmth and "playfulness," which so often accompanied the caretaking activities of the non-schizophrenic foster parents. Gradually the mother became even more depressed, agitated, withdrawn. She resisted hospitalization for a period of 4 months and finally admitted herself to a mental hospital when the infant was age 13 months.

Infant : Prior to the mother's hospitalization baby M.'s physical and emotional development were grossly deviant. Motor development was markedly retarded. Head raising was delayed. Baby M. (a girl) did not sit until 12 months of age. She was generally hypoactive and rarely smiled. Babbling and cooing were minimal. She appeared hypersensitive to sensory stimuli, and had frequent gastrointestinal upsets. She was very "shy" from age 5 months and "stranger anxiety" seemed to be excessive from age 6-12 months. We were particularly impressed by how frequently baby M. appeared "sad," tearful and irritable.

Case II. Mother : Mrs. Y. was a 28-year-old woman, hospitalized on 2 occasions prior to our present observations, diagnosed as having schizophrenia, undifferentiated type with marked depressive features. She cared for her baby girl a total of 13 months in the infant's first year and a half of life. Mrs. Y. was quite interested in her infant, nevertheless the interest was always expressed from a distance in a relatively passive manner. She usually sat at a considerable distance from the infant, tense, affectively constricted, depressed, but always keeping a watchful eye on the baby. If the baby gave some brief sign of distress, Mrs. Y.

would immediately glance over but without moving towards the infant. If the baby's distress persisted she would then go to the baby, relieve whatever distress was present and then move back to her original position of "attentive distance." She appeared to judge the physical needs of the infant appropriately be it hunger, fatigue, or a dirty diaper and she would gratify the need with a certain efficiency. Mrs. Y.'s movements in caring for her infant however were quite slow, consistent with the general motor retardation which accompanied Mrs. Y.'s depression.

Whenever she handled her baby Mrs. Y.'s face appeared tense and depressed. When Mrs. Y. engaged in social interaction with her infant her actions were quite passive. For example on the relatively few occasions Mrs. Y. played with her infant, she did not actively participate in the play. Instead, Mrs. Y. would drop a toy in the play pen and would then passively stand by and watch the baby play with it. This "passive" closeness was only of short duration. She would then re-establish her distance from the infant. When the baby was 6 months old, Mrs. Y. began to show increased signs of depression, agitation and weeping. As Mrs. Y. progressively became more depressed the physical distance she maintained between herself and her infant lessened and Mrs. Y. spent much more time rocking and holding her infant. Four months later, Mrs. Y.'s depression became very acute and she was hospitalized.

Infant: As Mrs. Y.'s symptoms of depression became more acute, Baby L. (a girl) began to frequently appear sad, lachrymose and irritable. Laughing and smiling in the infant occurred relatively infrequently. The baby showed little spontaneous pleasure in her motor activities and in her play with toys. Baby L. gradually became hypoactive and she began to show regression in her motor development as well. At age 7 months Baby L. lost the ability to sit up after she had been capable of sitting for a month.

Case III. Mother: Mrs. D. was a 27-year-old woman, hospitalized on several occasions prior to our study with a diagnosis of paranoid schizophrenia. She cared for her baby (a boy) for the first 11 months of his life. Mrs. D.'s care of her infant was characterized by the following behavior: She consistently held the infant very close to her, frequently making such comments as "he is so helpless, just like me" and "for once I feel I am needed, important." With the baby, Mrs. D. appeared tense, rigid, and depressed. Her face was "sad," inclined to tears at times; at other times, Mrs.

D. was emotionally "flat." Her movements in caring for the baby's needs, i.e., dressing and undressing the infant, were slow. She engaged the baby in play relatively infrequently, and only rarely would she actively stimulate him to laugh or smile. She would sit and gaze at him for long periods of time. She seemed to judge his physical needs appropriately, and when he was in distress she would actively and immediately investigate the cause. She held him, rocked him and comforted him frequently. Mrs. D. developed symptoms of acute psychosis when the baby was 8 months of age but she refused to be hospitalized until 4 months later. During the 4 months preceding her hospitalization Mrs. D. became increasingly depressed, agitated and tearful in her interaction with the infant though she still maintained her active attentiveness to the infant's physical needs.

Infant: From the age of 5 months onward Baby F.'s face was characterized by a somber stern expression. He was quick to cry, irritable, and frequently appeared tearful and sad. Laughing, smiling and spontaneous vocalizations were relatively infrequent. He showed little in the way of "delight" with his own movements. Playing with toys was done with interest but without the frequent spontaneous expressions of pleasure that the infants raised by the foster parents so often showed. Baby F. showed no evidence of retardation in motor development.

Case IV. Mrs. C. was a 29-year-old negro woman, the one schizophrenic mother whose infant did not show any evidence of early emotional disorder. Mrs. C. was hospitalized on one occasion prior to our study, diagnosed as having paranoid schizophrenia. She cared for her baby boy throughout his entire first 1½ years of life. She was very active with her infant, stimulated him to roll over, sit-up, walk, talk. She laughed with him, played with him and thoroughly enjoyed her activities with him. She was responsive to his physical needs and would smile, laugh and talk while handling him. With her older children she was firm and assertive. No one particular parental behavior set her apart from the foster parents we observed. Her schizophrenic illness was in remission throughout the infant's first year and a half and she was not depressed. Her infant's emotional and physical growth showed no striking deviation when contrasted with the growth of the infants reared by the foster parents.

The infants reported in cases I, II and III each developed signs of chronic depression.

The mothers of these infants were the only mothers observed who developed signs of acute psychosis while caring for their babies. This circumstance alone however did not define for us specifically what in the behavior of these mothers led to the depressive picture seen in their infants. We were particularly impressed by the following specific variables in the behavior of the 3 schizophrenic mothers which preceded and may have caused the appearance of chronic "tearfulness," "irritability," and "sadness" in their infants: 1. The primary affective state these mothers showed in the presence of their infants was constant and severe depression; 2. These mothers evidenced relatively little actively joyful or pleasurable affect in their interaction with their infants; 3. They engaged in relatively little active play with their infants. We wondered whether the presence of a depressed affect in the mother in and of itself could be a factor responsible for the depressed picture observed in their infants. It has long been known that an infant can transiently "catch" a depression from the mother. Charles Darwin(3) described this phenomenon in his own infant as follows:

when a few days over six months old his nurse pretended to cry, I saw that his face instantly assumed a melancholy expression with the corners of the mouth strongly depressed.

Many others have described this process and have labelled it "the contagion of feeling." As described, this process might represent only the infant's mimicry of the facial expression of the nurse or mother. Such workers as Eschallona(4), Burlingham(5) and Spitz(6), however, cite instances in which true feelings are stimulated in children by "contagion." While such instances have been reported, we feel that the full developmental significance of the process of contagion has not been adequately investigated. For example what would be the long-term effect on the infant of a mother who constantly exposes her growing baby to weeping over a sustained period of time? Does the infant "learn" a pattern of depression from such a mother due to the constant reinforcement of this emotional pattern in the infant by the process of "con-

tagion?" It would seem that such a constant reinforcement of a particular neural pathway of affective expression (depression) early in the life of the infant could permanently establish a depressed pattern of neural discharge. The infants described in cases I, II, and III may have developed their depressions by just this mechanism. Perhaps Anna Freud(7) had this process in mind when she recently spoke of infants who "follow" their mothers into depression. Our data do not firmly establish "contagion" as the cause of the depressions in the infants we observed. In part this is because we have not been able to exclude the importance of other variables which may have influenced the infants' emotional development. For example, "tenseness" in the mothers' handling of the infants, the absence of "play," and/or the relative lack of pleasurable responses in the mother may have been important if not the important variables responsible for the depressions in the infants. It is also possible that no one variable alone can cause early depression and that "contagion" was but one of a number of variables which together were responsible for the observed emotional maldevelopment. Our thoughts on the early "contagion of depression" led us to wonder about the "contagion of elation." A study of infants whose mothers are inappropriately elated would also be of interest. Using Anna Freud's phrase, does the infant by early contagion and learning, "follow" its mother into the inappropriate use of elation as a psychopathological defense?

The data reported in case I and our experience with a second case seen in private consultation suggested that a mother with catatonic symptoms might have a particularly harmful effect on the growing infant. In both cases, the infants observed showed signs of significant physical and emotional deterioration. It may be that catatonic withdrawal in the mother provides an environment for the infant which is equivalent to purely custodial institutional care. Spitz(8) has demonstrated the harmful effects of the latter. We plan to do a special study of infants with mothers diagnosed as having catatonic schizophrenia. Though our data to date are quite limited, we believe that the clinician involved in the outpatient

treatment of a catatonic schizophrenic mother should be particularly alert to the adverse effects such a mother might have on the growth of her infant.

The observations that 3 of the schizophrenic mothers played relatively little with their infants when compared with non-schizophrenic mothers pointed up to us how much the normal infant's life consists of his parents actively engaging him in "play." We wondered about the special importance of parent-child play during early infancy in establishing pleasurable affectionate relationships between child and parent. It also seemed that parent-infant play might be an important part of a process in which the normal child learns to enjoy the use of leisure time in later life.

The observations we have reported so far are based on following the infants discussed in cases I, II and III up to the ages of 14 months. Subsequently, their emotional and physical development was markedly influenced by: 1. The separation from the mother which occurred at the time the mother was hospitalized and 2. The many separation and deprivation experiences which followed. We were surprised at how frequently such separation and deprivation experiences occurred following the mother's initial hospitalization. The data below illustrate the number of such experiences occurring to these infants in their first 2 years of life.

Baby M. and Baby L. were each placed with foster mothers after their mothers were initially hospitalized. Both mothers were subsequently discharged from their respective hospitals. Baby M. and Baby L. were removed from their foster mothers, reunited with their mothers only to re-experience separation when their mothers were again re-hospitalized. (The fact that these mothers were involved in our study was unrelated to their apparently premature discharges.) Baby L. was then placed with 2 different foster mothers. Baby M. was placed in an institution for 3 months and then placed in a foster home. Baby F. was placed with the maternal grandmother on 3 different occasions for long periods of time. As they experienced these multiple separations from parents and substitute parents all 3 infants showed increased signs of irritability, depression and marked and persistent "stranger anxiety," minimal smiling, decreased social re-

sponses, disturbed sleep patterns, and gastrointestinal dysfunction. Subsequently we have been surprised at the resiliency shown by 2 of the infants when they were finally placed in "good" foster homes for sustained periods of time. Both of these children are now 2½ years old and each appears to be moving along the lines of healthy personality development.

The multiple separation experiences noted above may account in part for the high incidence of psychopathology reported in children of 2 schizophrenic parents. Studying only schizophrenic women mated to schizophrenic partners probably introduced several important selective factors. Schizophrenic women who choose schizophrenic mates may have more psychopathology and consequently show more disturbed parental behavior than schizophrenic women who choose non-schizophrenic partners. Also, our selection necessarily meant that the fathers were highly disturbed persons. The schizophrenic fathers in the cases studied were either absent or relatively ineffectual and in all instances were a constant source of stress to the mother. This lack of a stable father was one of the factors responsible for the frequent separation and deprivation experiences suffered by these infants subsequent to their mothers' hospitalizations.

SUMMARY

We have observed the early development of children of 2 schizophrenic parents. Three of the 4 children raised by their original schizophrenic parents developed clear-cut signs of depression and irritability in infancy. None of the 4 infants raised by foster parents developed any such clear-cut signs of emotional disorder. Our data suggest that the parental behavior of their schizophrenic mothers was at least partially responsible for the early emotional maldevelopment observed in their 3 infants. All 3 schizophrenic mothers were consistently depressed with their infants. The "contagion of depression" from mother to infant was discussed and it was suggested that this phenomenon caused an enduring depressive pattern of affective discharge in the infants we observed. It was also noted that all 3 schizophrenic mothers indulged in relatively little active play with their infants and

showed relatively little pleasurable responsiveness to their infants. Certain observations suggested to us that a mother with acute catatonic symptoms may have a particularly harmful effect on the physical and emotional growth of an infant. We were also struck by the many separation and deprivation experiences occurring to infants reared by schizophrenic mothers mated to schizophrenic partners. We are continuing our study of infants with 2 schizophrenic parents. This group offers an opportunity to explore a number of hypotheses which we shall comment on in the future.

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THE ROLE CONCEPT, A BRIDGE BETWEEN PSYCHIATRY AND SOCIOLOGY

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THE THIRD PSYCHIATRIC REVOLUTION

According to Zilboorg(1) two psychiatric revolutions have taken place in the last 3 centuries. Each psychiatric revolution was accompanied by a new body of theories and by new methods of clinical practice. The first psychiatric revolution(1) was connected with the name of Philippe Pinel, his freeing of inmates from chains (1792); the second psychiatric revolution(1) with Sigmund Freud, his treatment on an individual basis through psychoanalysis (1893). In retrospect, Zilboorg's view requires basic correction. The second psychiatric revolution had at least two other highlights: Ivan P. Pavlov's conditioned reflex (1904) and Adolf Meyer's psychobiology (1906).

There is wide consensus that we are now in the midst of the "third" psychiatric revolution(2, 3). Psychoanalysis faces its greatest crisis, it is in decline in the West and is rejected in the Communistic countries of the East(4). The new era is one of multiple innovations which have set the pace for new developments in psychiatry. It is characterized by the group psychiatric approach (5-8). The theories of interpersonal relations(9, 10), microsociology and sociometry and the theories of the encounter, spontaneity and creativity(11) have opened up vast areas of research in psychiatry, social psychology and social anthropology. New methods of therapy as group psychotherapy, psychodrama, sociodrama, psychosomatic medicine(12) and psychopharmacology (13) have been introduced. The ideas of the therapeutic society, therapeutic community, the day hospital and the "open door" of prisons and mental hospitals are beginning to replace the older coercive methods of the management of prisoners and mental patients.

It may be appropriate here to quote Dr. William Alanson White from an address at the Round Table on the "Application of the

Group Method to Classification"(6) held in Philadelphia, May 31, 1932.

I remember visiting, a few years ago, a prison in the East with about one thousand inmates. It had no walls and only a few cells. The dormitory system, similar to that in schools, was in use. On the first occasion I found no men in the solitary cells and on the second occasion only one. The men were free to conduct themselves and the warden was clever enough to handle the men so that they felt comfortable. They did not run away nor did they commit acts which would have made the running of the prison impossible.—Some years ago Congress made an appropriation for a prison for Washington, D. C. Roosevelt picked a committee to decide upon recommendations and plans. Among those he chose was a banker, a very well-known philanthropist. Hearing of his appointment, the man immediately protested, saying: "I cannot serve upon this committee. I know nothing about the project. I never was in a prison in my life." The President responded: "That's just why I want you." A prison was erected without walls and with no cells. It still functions successfully.

American psychiatrists traveled in recent years to Russia and England in search of "new" ideas. Had they looked carefully they would have found them in their own back yard.

A new body of theory developed in the last 30 years which aimed to establish a bridge between psychiatry and the social sciences; it tried to transcend the limitations of psychoanalysis and behaviorism by a systematic investigation of social phenomena. One of the most significant concepts in this new theoretical framework is the role concept.

THE PSYCHIATRIC ROLE CONCEPT(7)

Current surveys of the origin and development of role theory and role concept emphasize the contributions made by sociologists and psychologists but neglect the contributions of psychiatrists. The reader gets the impression that psychiatrists had

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nothing to do with the development of role concepts. The authors of these surveys are often psychiatrists(14). Why do these authors look for the origin of the new ideas in other sciences, neglecting their own, psychiatry? Psychiatrists are often given second place when it comes to theory; they react with inferiority feelings when they are accused by psychologists and sociologists of being less scientific. Sociologists in contrast suffer frequently from a superiority bias, writing being their favorite occupation rather than observing and experimenting.

It is only fair to point out that besides non-medical authors, numerous psychiatrists(15-45) have had a profound bearing upon the development of the role concept influencing many sociological and psychological authors in their own, more academic formulations.

HISTORY OF THE TERM ROLE

Role, originally an old-French word, which penetrated into medieval French and English, is derived from the Latin "rotula." In Greece and also in ancient Rome, the parts in the theater were written on the above mentioned "rolls" and read by the prompters to the actors who tried to memorize their part by heart; this fixation of the word role appears to have been lost in the more illiterate periods of the early and middle centuries of the Dark Ages, for their public presentation of church plays by laymen. It was not until the 16th or 17th centuries, with the emergence of the modern stage, that the parts of the theatrical characters were read from "roles," paper fascicles. Whence each scenic "part" becomes a role(26).

Role is thus not a sociological concept, it came into the sociological vocabulary via the drama. It is often overlooked that modern role theory had its logical origin and its perspectives in the drama. It has a long history and tradition in the European theater from which gradually developed the therapeutic and social direction of our time. It is from Europe that the seed of these ideas were transplanted to the U.S.A. in the middle of the twenties(5). From the roles and counter roles, the role situations and role conserves developed naturally their modern extensions: role player, role play-

ing, role expectation, acting out, and finally, psychodrama and sociodrama. Independently, the sociological concept of role taking by G. H. Mead(46) took form (1934) and was further developed by R. Linton(47) (1936); both of these men were apparently unaware of the basic dependence of the process of role taking upon the drama. Many American sociologists have monopolized the concept of role, especially T. Parsons(48), as if it were sociological property. But most terms and meanings which Parsons and associates present in their writings can be found in prior publications(52).

DEFINITION OF ROLE

Role can be defined as the actual and tangible forms which the self takes(20). We thus define the role as the functioning form the individual assumes in the specific moment he reacts to a specific situation in which other persons or objects are involved. The symbolic representation of this functioning form, perceived by the individual and others, is called the role. The form is created by past experiences and the cultural patterns of the society in which the individual lives, and may be satisfied by the specific type of his productivity(23).—Every role is a fusion of private and collective elements. Every role has two sides, a private and a collective side(21).

CONSTRUCTS OF THE ROLE

The role concept cuts across the sciences of man, physiology, psychology, sociology, anthropology and binds them together on a new plane. The sociologists, G. H. Mead(46) and R. Linton(47), limited the theory of roles to a single dimension, the social. The psychodramatic role theory operating with a psychiatric orientation, is more inclusive. It carries the concept of role through all dimensions of life; it begins at birth and continues throughout the lifetime of the individual and the *socius*. It has constructed models in which the role begins to transact from birth on. We cannot start with the role process at the moment of language development but in order to be consistent we must carry it through the non-verbal phases of living. Therefore, role theory cannot be limited to social roles, it must include the 3 dimensions, social roles, expressing the social dimension, psychosomatic roles expressing the physiological dimension, and psy-

chodramatic roles expressing the psychological dimension of the self.

Illustrations of psychosomatic roles are the role of the eater and the sexual role. Characteristic patterns of interaction between mother and infant in the process of eating produce role constellations of the eater which can be followed up throughout the different life periods. Psychodramatic forms of role playing as role reversal, role identification, double and mirror playing, contribute to the mental growth of the individual. The social roles develop at a later stage and lean upon psychosomatic and psychodramatic roles as earlier forms of experience. (See Table of Role Classifications below.)

FUNCTION OF THE ROLE

"The function of the role is to enter the unconscious from the social world and bring shape and order into it" (5). The relationship of roles to the situations in which the individual operates (status) and the relation of role as significantly related to ego has been emphasized by Moreno (7).

Everybody is expected to live up to his official role in life, a teacher is to act as a teacher, a pupil as a pupil, and so forth. But the individual craves to embody far more roles than those he is allowed to act out in life, and even within the same role one or more varieties of it. Every individual is filled with different roles in which he wants to become active and that are present in him in different stages of development. It is from the active pressure which these multiple individual units exert upon the manifest official role that a

feeling of anxiety is often produced (7).

Every individual—just as he has at all times a set of friends and a set of enemies—has a range of roles in which he seems himself and faces a range of counter-roles in which he sees others around him. They are in various stages of development. The tangible aspects of what is known as "ego" are the roles in which he operates, the pattern of role-relations around an individual as their focus.—We consider roles and relationships between roles as the most significant development within any specific culture (17).

Role is the unit of culture; ego and role are in continuous interaction.

ROLE PLAYING, ROLE PERCEPTION AND ROLE ENACTMENT (19)

Role perception is cognitive and anticipates forthcoming responses. Role enactment is a skill of performance. A high degree of role perception can be accompanied by a low skill for role enactment and *vice versa*. Role playing is a function of both role perception and role enactment. Role training, in contrast to role playing is an effort, through the rehearsal of roles, to perform adequately in future situations.

ROLE PATHOLOGY (51)

Regressive behavior is not a true regression but a form of role playing. In paranoiac behavior, the repertory of roles is reduced to distorted acting in a single role. The deviate is unable to carry out a role *in situ*. He either overplays or underplays the part, inadequate perception is combined with distorted enactment. Histrionic neurosis of ac-

TABLE OF ROLE CLASSIFICATIONS *

Origin	Degree of Spontaneity	Content	Quantity	
Collective Roles	Role Taking (Conserve)	Psychosomatic Roles (<i>e.g.</i> , Role of the Eater)	Deficiency of Roles	
Individual Roles	Role Playing	Psychodramatic Roles	Adequacy of Roles	
	Role Creating	Social Roles	Superiority of Roles	
Time	Warming up Speed	Consistency	Rank	Form
Expectancy (Future)	Slow	Weak	Dominant	Flexible
Presentness	Average	Balanced	Recessive	Rigid
	Fast			
Reminiscent (Past)	Overheated	Strong		

* From J. L. Moreno, *Spontaneity Theory of Child Development*, Beacon, N. Y.: Beacon House, 1944.

tors is due to the intervention of role fragments "alien" to the personality of the actor(7).

CO-UNCONSCIOUS STATES AND THE "INTER-PSYCHE"(18)

By means of "role reversing" one actor tries to identify with another, but reversal of roles can not take place in a vacuum. Individuals who are intimately acquainted reverse roles more easily than individuals who are separated by a wide psychological or ethnic distance. The cause for these great variations are the developments of co-conscious and co-unconscious states. Neither the concept of unconscious states (Freud) nor that of collective unconscious states (Jung) can be easily applied to these problems without stretching the meaning of the terms. The free associations of A may be a path to the unconscious states of A; the free associations of B may be a path to the unconscious states of B; but can the unconscious material of A link naturally and directly with the unconscious material of B unless they share in unconscious states? The concept of individual unconscious states becomes unsatisfactory for explaining both movements, from the present situation of A, and in reverse to the present situation of B. We must look for a concept which is so constructed that the objective indication for the existence of this two-way process does not come from a single psyche but from a still deeper reality in which the unconscious states of two or several individuals are interlocked with a system of co-unconscious states. They play a great role in the life of people who live in intimate ensembles like father and son, husband and wife, mother and daughter, siblings and twins, but also in other intimate ensembles as in work teams, combat teams in war and revolution, in concentration camps or charismatic religious groups. Marriage and family therapy, for instance, has to be so conducted that the "interpsyche" of the entire group is re-enacted so that all their tele-relations, their co-conscious and co-unconscious states are brought to life. Co-conscious and co-unconscious states are, by definition, such states which the partners have experienced and produced jointly and which can, there-

fore be only jointly reproduced or re-enacted. A co-conscious or a co-unconscious state can not be the property of one individual only. It is always a *common* property and cannot be reproduced but by a combined effort. If a re-enactment of such co-conscious or co-unconscious state is desired or necessary, that re-enactment has to take place with the help of all partners involved in the episode. The logical method of such re-enactment *à deux* is psychodrama. However great a genius of perception one partner of the ensemble might have, he can not produce that episode alone because they have in common their co-conscious and co-unconscious states which are the matrix from which they drew their inspiration and knowledge.

MEASUREMENT OF ROLES

As a general rule, a role can be: 1. Rudimentarily developed, normally developed, or over-developed; 2. Almost or totally absent in a person (indifference); 3. Perverted into a hostile function. A role in any of the above categories can also be classified from the point of view of its development in time: 1. It was never present; 2. It is present towards one person but not present towards another; 3. It was once present towards a person but is now extinguished(16).

A simple method of measuring roles is to use as a norm permanently established processes which do not permit any change, role conserves like Shakespeare's Hamlet or Othello, Goethe's Faust or Byron's Don Juan. Another method of measurement uses as norms social roles which are rigidly prescribed by social and legalistic customs and forms. Illustrations for this are social roles as the policeman, the judge, the physician and so forth. Another method of measurement is to let a subject develop a role in *statu nascendi*, placing him into a situation which is little structured, up to situations which are highly organized. The productions of different subjects will differ greatly and will provide us with a yardstick for role measurement. Another method of measurement is to place a number of subjects unacquainted with each other into a situation which they have to meet in common. Illustration: six men of equal military rank are camping. Suddenly they see an enemy parachutist landing in the nearby forest. They have to act on the spur of the moment. A jury watches to see how the group grows in *statu nascendi*; it may discern (a) what relationships develop between the six

men; who is taking the initiative in the first phase, in the intermediate phases, in the final phase of their interaction? Who emerges as the "leader"? (b) What action do they take towards the enemy? (c) How is the situation ended and by whom? (7, 16).

Another significant method of measurement is the analysis of role diagrams and sociograms of individuals and groups from the point of view of role interaction, role clustering and prediction of future behavior.

EMPIRICAL AND EXPERIMENTAL VALIDATION OF ROLE THEORY

A considerable amount of experimental and validation studies have been made in recent years (49, 50).

SUMMARY

The concept underlying this approach is the recognition that *man is a role player*, that every individual is characterized by a certain range of roles which dominate his behavior, and that every culture is characterized by a certain set of roles which it imposes with a varying degree of success upon its membership (21).

In contrast to the theories presented by psychologists and sociologists "psychiatric role theory" developed largely out of clinical contexts, methods of prevention, treatment of psychoses and neuroses, of marriage and family groups, of interpersonal relations, of problems of industrial adjustment, of the fields of mental hygiene and education.

Role research and role therapy are still in their infancy. Psychodrama presents a valuable vehicle for experimental and control studies of roles. It permits the observation of individuals in live situations in which they are concretely involved.

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PSYCHIATRIC FACILITIES AT THE ALBERT SCHWEITZER HOSPITAL

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The hospital at Lambarene in French West Africa established in 1913 by Dr. Albert Schweitzer and still under his direction is familiar to people throughout the world through Dr. Schweitzer's writings and the writings of visitors.

Outside of the picture that is made up of both fact and fantasy, myth and truth, there is the reality of the medical and surgical work that goes on in the hospital as hundreds of natives are treated every month for conditions which are usually severe and infinitely varied.

Though exact statistics are not kept because of limitations of time and personnel, and the medical records are somewhat brief, there are many circumstances in the diseases and treatment of the patients which make them of especial interest for research purposes. The survey of surgery at Lambarene recently published⁽¹⁾ and studies in the cardiovascular status of the native population which have been lately conducted there by visiting physicians interested in hypertensive disorders suggest some of the areas which have most recently been touched upon.

It was my good fortune to spend a week in June 1961 at Lambarene, and while I was there concentrated the majority of my time and interest, by request as well as disposition, on the psychiatric facilities which exist at the hospital.

There was on hand a supply of several thousand 8 mg. tablets and 5 mg. ampoules of Trilafon along with smaller quantities of 10 mg. Marplan and 15 mg. Niamid tablets, but these had not been used since Dr. Schweitzer had wished to wait till a psychiatrist happened to visit to advise in their utilization. Throughout the year among the visitors come representatives of the various medical specialties, though I was told I was the first psychiatrist who had come to Lambarene.

It was reported to me that outside of new

neuropsychiatric facilities in Brazzaville, the status of which was not clear, the quarters for neuropsychiatric patients at Lambarene were the only ones available in the entirety of French West Africa. These quarters are for the native Africans. One room, infrequently used, was constructed for the occasional white patient. It is essentially necessary for any white psychotic patient to go to Europe if he is to receive care.

At the time of my visit there were 18 rooms for that number of patients, male or female. These rooms are in 3 separate buildings; 6 in 2 buildings of the maximum security type, and 6 in adjoining structures where the least disturbed individuals are housed. The patients are divided approximately into 3 categories and housed accordingly—most severely, severely, and moderately disturbed.

The 2 maximum security buildings each contains 6 small rooms very solidly built. Light is provided through heavy wooden grills beside and over the door. There is no furniture in the rooms. Patients sleep on the floor with a blanket to cover them if necessary and with a movable receptacle for toilet use. The construction is so well executed that even the most disturbed psychotic patient rarely can do any damage inside, though one floor was in process of repair where one man had succeeded in tearing out a couple of boards. If a patient is too disturbed to allow out of the room, food is passed through an aperture with a sliding panel which is otherwise locked in place.

The attempt is made to have a nurse solely for the unit. At the time I was there, the woman in charge, Miss Ruth, had had no nurse's training though she had worked for a few months with patients in a mental hospital in Europe. By temperament she was ideally suited for such work, being kind, patient, and both permissive and firm as the situation demanded. One of the physicians on the staff, Dr. R. Friedmann, who has a great deal of interest in psychiatry

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and has had some experience in the field, includes among his duties the supervision of the neuropsychiatric patients.

In the mornings, the patients who are able to come out of their rooms are brought to an area between two of the buildings which house them where they sit about quietly. They are encouraged to take part in various simple activities which are a combination of occupational and industrial therapies. These consisted mainly of making fishing nets out of suitable strands, and rolling pineapple and hemp fibers into twine for use in the hospital. Future plans include expansion of these activities to create a more varied and useful program.

Meals are cooked at this gathering place in an iron pot over a slow log fire in the same way they are cooked by the natives in their villages, and consist of such local staples as fish and rice. There were two native orderlies who assisted in all the activities of the unit, including dispensing tablets and giving injections under Miss Ruth's supervision.

At the time of my stay there were 5 patients whom it was necessary to keep in continuous seclusion due to their agitation, combativeness, and generally disturbed state. The rooms are small and rather dark, and in addition to removal from interpersonal contact and normal physical activity, the natives who all believe in the omnipresence of malignant spirits and "vampires" are especially frightened at night when delusions and hallucinations compound their usual fears of the supernatural.

In this connection it is worth mentioning that any treatment program is complicated by the fact that after the patients are locked in their rooms for the night at about 4:00 p.m. they are essentially unattended, and friends or enemies can pass food and drink into the rooms through the heavy wooden grill. Included may be palm wine, which creates many alcoholic problems among the natives generally and various drugs, some of which may be highly toxic. Hence it is not possible to be precisely certain about the results of medication because of these extraneous complicating factors.

After discussion of the drugs on hand with Dr. Schweitzer and other staff members, I outlined the usage and general re-

sults in treatment of patients in psychiatric hospitals in the United States and suggested a plan to give Trilafon to the 5 disturbed patients; 4 men and 1 woman; and Marplan to 5 who appeared depressed. One patient who had depressive features and periods of excitement received both drugs.

With Trilafon, treatment began with intramuscular injections of 5 mg. with 4 patients. The fifth refused the injections and was started on oral Trilafon, 8 mg. q.i.d. It was possible to shift to the oral route after the first intramuscular injection of Trilafon with all 4 patients as they appeared now able to cooperate with treatment to the extent of taking the medication.

Marplan was started on a 10 mg. t.i.d. basis with 5 depressed patients; 4 men, 1 woman—one of whom, as noted, was also on the dosage of Trilafon, 8 mg. q.i.d.

It is fairly obvious that diagnosis of patients in a cultural setting unfamiliar to the psychiatrist, where he has only a rudimentary familiarity with the language spoken (the system of communication between natives and staff involved a sort of "pidgin" French), poses problems which can be solved only with the help of colleagues on the scene, and with reliance upon criteria of the grosser but important sort, such as motor activity, facial expression, tone of voice, ability to relate to examiner and others, response to presumably delusional and hallucinatory material, and resemblance to categories of psychiatric illness encountered elsewhere.

From what Dr. Friedmann and Miss Ruth told me about each patient during the hospital course along with any past history available plus what I observed myself for 2 days during the stage of planning the treatment program, the decision to administer the medications as previously described was arrived at. It was conceived essentially as an experiment to see how the native patients would react to the medication and whether it would be possible to quiet the agitated enough to permit some or all of them to join the others outside during the day for the purpose of returning them sooner to the community. There was not enough of either medication on hand to permit an extended treatment program, nor was there any certainty about when a further supply

of drugs would be forthcoming.

The psychiatric patients make up a very small percentage of the total patient load each day in the hospital, so that with only 15 physicians to cope with a staggering load of work there is not time to give the psychiatric patients intensive medical attention. Whether drugs are given through the courtesy of a pharmaceutical firm or purchased, there is a long and rather unpredictable time before they will arrive. A time lag of 3 to 6 months was mentioned to me as apt to occur between ordering and reception due to the distance from Europe and vagaries of shipping.

After the drugs were begun, I visited the unit daily in morning and afternoon, talking with the nurse, with the patients, and observing them while in the group and also from a distance of 30 or 40 feet where I could sit casually and comfortably on a fallen tree trunk. The majority of the patients were clearly soon aware of my presence and activity among them. There were a few words from some, nods, and occasionally a greeting. There was a response soon noticeable. On the second day of treatment 3 of the 5 disturbed patients had become appreciably quieter. On the third day, two were able to join the patients outside. Two sat on the steps of their rooms, participating in this peripheral way in the group. Their doors were open, but they did not leave the steps to venture further. One of these two had been acutely disturbed. The patient on Trilafon and Marplan seemed to appear more depressed, so the Trilafon was discontinued, Marplan dosage increased to 10 mg. q.i.d. The fifth patient on Trilafon was quieter, but not quiet enough to permit out of his room in Miss Ruth's opinion, whose judgment seemed good.

In the 4 days Marplan was administered, some improvement was reported in one male patient and the one female in this group, though I was unable to notice any significant change myself. This obviously was not a long enough period to afford any conclusions about Marplan.

Due to the heavy press of manifold medical and administrative duties, Dr. Friedmann did not often have time to discuss questions and concerns with Miss Ruth, so

that with free time at my disposal it was possible to talk over with her a variety of matters, including the treatment program and techniques of handling psychotic patients in quite general terms. I made the suggestion that if possible some time be found for this kind of discussion with Miss Ruth by Dr. Friedmann to maintain her morale and lessen some of her uncertainties and anxieties in a relatively unfamiliar role.

Recommendations and suggestions about present and future drug therapies, as well as some points suggested for general management in keeping with accepted psychiatric policies in the United States and adapted to local circumstances at Lambarene, were written out and left with the staff for future guidance.

Soon a 6-room additional unit is to be built adjacent to the existing 3 units. In keeping with psychiatric hospitals everywhere, the growing load of patients, the turn-over in personnel, and the demands on the staff present familiar problems to the administration at Lambarene.

However, the pioneer work which has been done there on a continent where psychiatric facilities are for the greater part non-existent provides the basis for significant contributions to the development of insight and understanding of the problems of diagnosis and treatment of mental illness in Africa, where so little has to date been done.

While in its adaptation to the circumstances of jungle life, primitive peoples, enormous patient demands, and the philosophy of Dr. Schweitzer, the hospital is quite unlike any hospital in the United States, it provides for the natives the advantages of many benefits of modern medicine and surgery. It is also apparent that the psychiatric care provided benefits from the program of utilizing occupational therapy, decreasing seclusion hours through the use of drugs, putting the unit in the hands of a charge attendant or nurse with psychiatric training and experience, and helping the patient make a transition as quickly as possible back to the community through job assignments on working crews of natives and subsequently to his home area.

It is a situation where the medical supervision of the psychiatrically ill will of necessity be done by physicians who are not

specialists in psychiatry, since the circumstances of the local scene and medical demands do not make possible or desirable the regular presence of any specialists. However, specialists in the various fields come throughout the year and are always ready and willing to contribute as seems feasible their ideas, service, and experience to the unique and remarkable hospital which is Dr. Schweitzer's personal creation.

It is, of course, not possible to reach any significant conclusions about the efficacy of drug therapy in treatment of mental illness among the natives in Africa from this project due to the small numbers of patients involved, lack of controls, and the brief time in which the unit and its patients were observed. The good response with 4 patients receiving Trilafon and some modest improvement with one may have been due to the added attention shown them by the nurse and myself. However, the same attention was shown the 5 depressed patients who received the Marplan, but in the same length of time they showed no really significant change. This suggests that there was a specific action of the Trilafon in lessening both motor and psychic over-activity. The antidepressants appear to take longer as a rule to have effect than the various "tranquilizers," so that it naturally could not be decided that the Marplan was not to be effective. Later communications from Lambarene may help to elucidate the effects of this, and other pharmacological agents, in decreasing seclusion for patients and permitting them to return more quickly to their families and home communities.

Since relatively few statistics have as yet been compiled from the available records in the hospital, little can be said about the incidence of mental illness among the native population served. The hospital has increased in size steadily through the years. The numbers of patients of all kinds have grown steadily both in the hospital and in the outpatient clinic. The numbers of rooms for psychiatric patients have concomitantly increased, and 6 new ones are planned for the near future. As quarters and treatment become increasingly available, it is likely that treatment of psychiatric ills will increase, as is true virtually wherever psychiatric facilities exist.

It is worth noting that the attitude and practice among the native population toward sexuality is reported by staff members who have known them for many years to be almost completely permissive, and without the neurotic guilt and anxiety characteristic of our own culture which has long treated sexuality in the rigid, repressive fashion familiar to psychiatrists and social scientists. Husbands and wives are reportedly free to have sexual relations as they please outside of marriage, and premarital sexuality is equally free. As a result, venereal diseases are found in virtually all males and females old enough to be capable of sexual intercourse. Gonorrhea, for example, with its many complications, occurs in 96-98% of the population. While apparently no anthropologist has studied the native culture in the Lambarene vicinity, these reports are based on long familiarity by a few staff members with the natives.

If Freud's thesis is correct that the excessive repression of sexual impulses, feelings, and wishes produces a considerable portion of neurotic anxiety and related symptoms it might be suggested that inhabitants of a completely permissive culture, sexually speaking, would not have difficulties arising from this specific area, at least, of existence.

In the search for a more adequate understanding of mental health and illness, it is conceivable that a close study of such a culture as exists in and around Lambarene, still essentially unaffected by the moral concepts of Christianity despite the presence of Protestant and Catholic missions might yield data that would be of value to psychiatry in theory and application.

The fact that Lambarene has been apparently the only existing facility in French West Africa for psychiatric patients, and still is the only place where treatment is available in thousands of square miles for the native and white population, suggests its importance for psychiatry in Africa, as well as the desire of Dr. Schweitzer to utilize as many modern concepts in the fields of medicine as is appropriate to local realities. It also accords with the interest in

psychiatry which Dr. Schweitzer has always had, and which first became evident in the thesis he wrote for his M.D. degree, which was "A Psychiatric Study of Jesus" (2).

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OUTCOMES OF TREATMENT OF SCHIZOPHRENIA IN A NORTH-EAST SCOTTISH MENTAL HOSPITAL¹

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Recent studies of response to treatment in schizophrenia have reported improvement in prognosis since the introduction of the tranquillising drugs (1, 3, 8, 11, 13). The concomitant presence of other exogenous factors likely to affect the course of the disease, for example, environmental changes (2, 4, 6), attitude of the psychiatrist towards drug-treatment, the quality of nursing care, and the state of repair of the ward itself (9, 12) indicates the need for both caution and further investigation in other mental hospitals.

This report is of a 3-year follow-up study of schizophrenics admitted for the first time during the periods 1949-53 and 1954-57 inclusive. Nineteen hundred and fifty-three was the last year in which tranquillisers were *not* in general use in this hospital, thus providing a dividing line (31-12-53) between the two eras. Name, sex, age, marital status, certified or voluntary, occupation, number of admissions during the 3-year follow-up interval, number of days spent in hospital in this time, and treatments given, were obtained for each first-admission schizophrenic. An upper age limit of 45 was applied to avoid the diagnostic difficulties of

middle-age delusional illnesses. Outcomes at 3 years were classed as 1. One admission with subsequent discharge; 2. Relapsing—more than one admission within 3 years; 3. Chronic—never discharged during the follow-up. The administrative routine of the hospital ensured approval of the diagnosis in every case by the Senior Consultant, so reasonable consistency was probably achieved in the clinical spectrum.

The 890-bed hospital serves the agricultural and seaward counties of Aberdeenshire, Banffshire, and Orkney Islands, total population 216,203 (14). No outstanding change occurred in this population during the period involved.

RESULTS

Two hundred and twenty-one first-attack schizophrenics were admitted during 1949-57 inclusive. One hundred and nineteen were male, 102 female; 105 (47.5%) were certified. In 1949-53 there were 128 admissions, in 1954-57, 93. During the same period 1949-57, total first admissions of *all* diagnosis comprised 2280 cases. Comparison of yearly first-admissions "all diagnosis" totals with first admission schizophrenia figures (Table 1), shows no admission trends other than the minor role of new cases of schizophrenia in bed-occupancy.

The distribution of schizophrenics by sex, marital state (unmarried), and mean age appears in Table 2.

¹ We are indebted to Dr. A. M. Wyllie, Physician-Superintendent, for making hospital records available to us.

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TABLE 1

First Admissions	1949	1950	1951	1952	1953	1954	1955	1956	1957
All Diagnosis	256	265	279	254	270	259	254	243	200
Schizophrenia	28	33	27	16	24	20	18	33	22

TABLE 2

Years	Male Schizophrenics			Female Schizophrenics			Total
	No.	Unmarried	Mean Age	No.	Unmarried	Mean Age	
1949-53	65	58 (89%)	26.7	63	42 (66%)	27.8	128
1954-57	54	43 (79%)	27.9	39	19 (49%)	29.1	93

The sample shows for both periods the usual higher proportion of males, and the unmarried, with no marked difference in mean age at admission for either sex or between epochs. The occupational distribution for males reflects the economy of the district, and confirms the greater loading in the labouring classes (social group 4 and 5).

percent gain in female one-attack cases (from 55.5% to 64%), compared with males (69% to 72%) from the earlier to the later epoch. These gains are unlikely to be significant but serve to indicate the trend. The bulk of cases displaced from the male chronic group has shifted into the higher percent *relapsing* in the 1954-57 era (12.3%

TABLE 3

Social group	Occupation	Number	Percent of sample	Percent of N. E. Scottish population
1	Professional	10	8%	2.3%
2	Farmers, crofters	7	5%	23.5%
3	Tradesmen	23	27%	42.5%
4	Fishermen	12	10%	
5	Farm servants	39	34%) 60%	32.0%
	Labourers	19	16%)	

The dominant position of the farm servant class and the surprisingly high percentage of classes 4 and 5 among the schizophrenias in comparison with the general population of North East Scotland may have some relation to a close breeding tendency in the district as well as to the schizophrenic craving for solitude in the open. The sample of schizophrenics under consideration conforms broadly in character to the national pattern for this illness in sex-ratio, marital status, and occupational-social class noted elsewhere.

Outcome of Treatment: The fate of all cases at 3 years from first admission by percentage in each possible type of outcome is shown in Table 4.

to 24% relapsing), while for females the spared chronics have moved into the *one-attack* percentage of 1954-57. The import of these changes in later years is not entirely clear but may depend in part on the treatments exhibited *de novo* at this time. Break-down of the relapsing group into numbers with 2, 3, 4, 5, or 6 readmissions appears in Table 5. The increased number of females with 3 or more admissions may represent potential chronics whose stay has been shortened sufficiently by new treatment regimes to bring them, at the price of frequent readmissions, into the relapsing class. Presumably an equivalent proportion of "relapsing" schizophrenics were transformed by treatment into one-attack cases. The

TABLE 4

Outcome	1949-53				1954-57			
	No.	Male %	No.	Female %	No.	Male %	No.	Female %
One attack	45	69.0%	35	55.5%	39	72.2%	25	64.0%
Relapsing	8	12.3%	19	30.0%	13	24.0%	12	30.9%
Chronic	12	18.4%	9	14.2%	2	3.7%	2	5.1%
Totals	65	100.0%	63	100.0%	54	100.0%	39	100.0%

There are 2 noteworthy features among these figures. 1. The very significant reduction in percent cases becoming chronic for both sexes from about 15% (18.4% and 14.2%) in 1949-53, to about 4% (3.7% and 5.1%) in 1954-57; 2. The more impressive

raised proportion of 3 and more attack patients in the later period is in keeping with the trend reported elsewhere as an accompaniment of shortened duration of stay in hospital (8, 13). Among the men, the situation is reversed, with little change in

TABLE 5

No. of Admissions	Male		Female	
	1949-53	%	1954-57	%
2	5	7.7%	10	18.5%
3	2)		3	
4	1)	4.6%	—)	5.5%
5	—)		—)	3.1%
6	—)		—)	
Total	8		13	
Group Total	65		54	

the proportion of 3 or more attack patients (4.6% and 5.5%), but a very clear accumulation of 2-admission cases in 1954-57 (7.7% to 18.5%). The general picture is of less chronicity without greatly increased relapse frequency, about two-thirds of both sexes having only 1 attack within a 3-year follow-up.

Table 6 indicates the mean duration of

shortening of 1-attack mean stay for both sexes in the more recent epoch may be a hint of a trend which has not yet become statistically detectable. Similarly a trend towards lengthened mean stay in the relapsing groups may be under way, as might be anticipated if the hypothesised shortening of the stay of potential "chronics" in the

TABLE 6
Mean No. of Days Spent in Hospital

	1949-53	1954-57
One attack		
Male	225 (N-45)	214 (N-39)
Female	167 (N-35)	136 (N-25)
Relapsing		
Male	367 (N- 8)	467 (N-13)
Female	440 (N-19)	475 (N-12)

hospital residence in the 3 years following first admission, measured in days, for 1-attack and relapsing cases. There has been no significant alteration in the mean time spent in hospital from 1949-53 to 1954-57, for either sex, whether one attack or relapsing. Females show a mean 1-attack stay in hospital of about half the duration of 1-attack males, though not statistically significant, presumably due to the wide variations of the time spent in hospital (range for males 12-937, for females 28-672). The slight

more recent period is in fact bringing a number of these within the limit of the 3-year follow-up, albeit only just within, and so pushing higher the mean length of stay for the relapsing group.

Categorising the sample by treatments given and calculating mean number of days in hospital for each type of treatment, using 1-attack cases only, produces the following figures. In 6 cases modified insulin only seemed to have been used, so these were excluded. The group labelled tranquillisers

TABLE 7
Mean Days in Hospital for Various Treatment for All Years

	ECT only	ECT & Insulin Coma	Insulin Coma	Tranquillizers
Male	119 (N-21)	261 (N-20)	243 (N-14)	344 (N-15)
Female	96 (N-26)	147 (N- 9)	104 (N- 5)	187 (N-10)

includes all cases in which these drugs were used, with or without other physical treatments, but *excluding* insulin coma therapy. Tranquillisers alone were used in only 2 females. The important differences are those between "E.C.T. only" and "tranquillisers," for both sexes. The factor determining length of stay is probably the clinical severity of the individual case rather than the treatment used, the more severe or less responsive having greater risk of exposure to new or further lines of therapeutic attack.

The outcome for first-admission schizophrenias in terms of number still in hospital at varying time intervals up to 3-years from admission date can be seen from Table 8.

problem of diagnostic consistency. In this particular instance it underlines the need for great caution in interpreting claims of miraculous improvement in the treatment of schizophrenia by the use of "tranquillisers." If this method of assessment does reflect the results of treatment, it tends to show that in this instance there has been no apparent shortening of stay in hospital since the introduction of these drugs. Among the 1-admission cases of both sexes less than 50% received tranquillisers in the years 1954-57. Those so treated had for both sexes a longer mean duration of hospitalisation than for any other treatment used. E.C.T. on its own was associated with the shortest mean stay,

TABLE 8
No. of Patients Still in Hospital at 3-Monthly Intervals after First Admission
Months after First Admission

Admissions	No.	3	6	9	12	15	18	21	24	27	30	33	36
(1949-53)	65	49	31	25	21	21	20	19	18	18	18	13	15
Male (1954-57)	54	36	24	16	15	13	12	9	6	7	8	6	8
(1949-53)	63	43	24	19	20	22	23	21	20	15	15	13	12
Female (1954-57)	39	23	11	7	7	9	7	6	8	9	8	6	7
Total	221												

All patients are included without regard to whether one-attack, relapsing or chronic, and this should be borne in mind in considering the table.

In 1949-53, 66% of first-admission schizophrenias were out of hospital within a year, and 70% in 1954-57, among males. For females corresponding figures are 68% and, surprisingly, 82% in the later sample. At 36 months of males 23% remained in hospital in 1949-53 group, and 18% in the other. Of women, 20% were still inpatients at 36 months, in both 1949-53 and 1954-57. These percent discharges remain lower than Norton's (1961) report of 86.7% of schizophrenics discharged within one year and only 10% remaining in hospital at the end of 2 years (8).

COMMENT

The crudeness of the length of stay method in indicating therapeutic effectiveness is recognised, but it does provide a simple yardstick for comparisons between hospitals and overcomes, by ignoring it, the

while insulin coma occupied an intermediary position. A likely explanation is that the tranquillisers took second place to the physical treatments in the favour of psychiatrists at this hospital, and were therefore never used with sufficient intensity or persistence. Another proposition would suggest that the lowering of chronicity from about 15% to about 5% in 1954-57 *without* rise in the mean duration of stay, implies of necessity, a shortening of stay in the "ex-chronics" now included with the 1-attack and relapsing classes. This may suggest in turn, that these ex-chronics are a relatively resistive group to most forms of therapy and they tend as a result to have the whole spectrum of treatments used on them including tranquillisers, thus prolonging the mean duration of stay of the particular class (1-attack, relapsing) they happen to enter, so tending in a time study to give an adverse impression of the effectiveness of the tranquillisers.

The shorter mean stay in hospital of female schizophrenics may be related to the supposed lesser severity of the illness in

women (5, 7, 10), and is quite striking in this sample. In the parallel measure of percentage 1-attack, relapsing, and chronic, however, there is no evidence of a greater recovery potential in women, both sexes in the later period showing the same proportion generally of each outcome. The improvement in the proportion of 1-attack females from 1949-53 to 1954-57 is no doubt partly due to a change of discharge policy from, paradoxically, an early discharge system in the earlier years to a more conservative longer stay system recently. The 5% chronics may be the indestructible few who will form the base-line for estimates of future bed requirements. These figures do not agree with other reports that the recent increase in schizophrenic admissions is attributable to more frequent relapse admissions—the tendency among females in this sample is to a reduced relapse rate in the follow-up to 3 years, but males do show a trend towards higher number relapsing in the more recent period (24.0% *cf.* 12.3% in 1949-53).

The figures reported here seem to indicate the conformity of this hospital to the national pattern of greatly improved prognosis for first-admission schizophrenia, with a few minor differences attributable to a more conservative, and possibly more responsible, attitude to what constitutes fitness for return to the community. The latter point is underlined in the comparative mean lengths of stay of "ever-discharged" cases—in Norton's (1961) (8) sample 63 days in re-

cent years, in this Scottish sample over 200 days. Evidently in Scotland the county mental hospital will continue to fill a need while bed-days per patient remain at this level.

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AGE AND THE SELF CONCEPT¹

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The literature on aging frequently refers to decline with age in the physical, social, economic, and psychological areas. Observational data suggest that many old people are not well adjusted. There is, however, scant experimental evidence to support these contentions.

Birren(1) suggested that essential characteristics of life change with age and recommended that chronological age be used as an independent variable to study the influence of age on life situations.

Several theoretical formulations concerning the degree and direction of change in personality with age have been reported. Kuhlen(6,7) found a curvilinear relationship between age and degree of personal happiness and attributed these findings to changes in time perspective. Slotkin(10) also theorized a curvilinear relationship between age and adjustment but attempted to explain the aging process in terms of Buhler's 5 stages of life.

Buhler(3) contended that the adult period can be divided into 3 phases: a period of expansion, of stability, and of restriction. During the expansion phase, the individual is working toward making a stable adjustment. After achieving and maintaining a level of stability, the individual enters the restriction phase which is characterized by an attempt to test the results of his life and to find gratification in his past accomplishments.

Linden and Courtney(8) contend that the human life span follows a cyclical pattern. In their clinical practice, they observe periods of physiological and psychological upheaval from which the individual recovers

until the cycle is repeated. They do not hypothesize a downtrend in adjustment with age. They conclude that maladjustment in old age results from the conflict between chronological age, expectation of the self, and the expectations of others.

Phillips(9) concluded that the most significant factor in determining emotional adjustment in old age was the person's perception of himself as old and his assumption of the role of an old person. Havighurst(5) used the term "role flexibility" which he defined as the ability of the individual to change roles easily and which he considers essential for good adjustment in old age. This point of view is closely related to that of Snygg and Combs(11) who theorized that the inadequacy of the phenomenal self to accept its perceptions results in the most serious threat to personality. It would seem that self concept theory is an adequate frame of reference from which to study the aging process.

Self acceptance and self rejection are aspects of the self concept and have been used frequently as a measure of personal adjustment. It is logical to assume that the correlates of the aging process result in differences in self acceptance and self rejection. The present study attempts to test the hypotheses that self acceptance decreases and self rejection increases as individuals grow older.

METHOD

Subjects

The sample consisted of 83 white male, surgical patients at the Bronx VA Hospital, a GM&S hospital in the Metropolitan New York area. Subjects (Ss) were patients with surgical disabilities of a nonchronic and nondisabling nature who had been hospitalized for relatively short periods of time. Typical diagnoses were hernia, hemorrhoids, deviated nasal septum, varicose veins, etc.

Background data suggests that the sample was representative of native-born Americans in urban communities. The mean educational level of the group was 10.7 grades,

¹ This article is adapted from a dissertation submitted to Teachers College, Columbia University, in partial fulfillment of the requirements for Ph.D. The author would like to acknowledge the contributions and encouragement provided by his dissertation committee, Professors Albert S. Thompson, Abraham Jacobs, and Irving Lorge.

² The study was completed while the author was a Counseling Psychologist Trainee at the Veterans Administration Hospital, Bronx, N. Y.

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The correlation between age and education was $-.31$. Occupationally, the group consisted primarily of skilled trades, craftsmen and clerical workers. Information relative to post-hospital plans revealed that 80% intended to return to their previous jobs upon leaving the hospital.

The above data indicate that we are not dealing with a "marginal" or "abnormal" group but it is recognized that the results of the study are only suggestive and cannot be applied *per se* to the general population.

Procedure

An adjective checklist (ACL) was developed by selecting items which a group of "experts" (psychologists, social workers, and physicians) agreed would differentiate younger from older persons. The adjectives were then administered to a patient sample who met the same criteria as the proposed subjects of the study. The patients rated the items as favorable, unfavorable, or neutral. Those adjectives rated by over 50% of the sample as either favorable or unfavorable with no more than 10% disagreement were included in the final checklist.

The final form of the ACL consisted of 63 favorable or positive items and 32 unfavorable or negative items.

Split half reliabilities for positive and negative scores were .93 and .88, respectively, indicating an adequate degree of internal consistency in the scale.

Ss were tested as close to their discharge date as was medically feasible. This period ranged from 4-7 days post-surgery. The Ss were asked to make a check or a zero next

to each item on the scale to indicate whether the adjective described "the way you are." Numbers were assigned and names were omitted from the checklists and personal data blanks to limit defensiveness. There was no time limit. After completing the checklist, Ss were assisted in completing the personal information blanks.

Definitions

Chronological age was the age of the subject at the time of examination. *Perceived age* was based on subjects' self ratings as reported on the personal information questionnaire. Each subject was asked to classify himself as young, middle-aged, or old. It was found that very few persons perceived themselves as old. For the purposes of testing the hypothesis of the study, *perceived age* was divided into 2 categories, "young" and "middle-aged and over." The biserial correlation between *chronological age* and *perceived age* was .67.

For purposes of measurement, self acceptance was defined as the positive score or the total number of positive adjectives attributed to the self and self rejection was defined as the negative score or the total number of negative items selected.

RESULTS

Correlation analysis was used to test the hypothesis pertaining to the relationships between age and the self concept. Product-moment correlations were computed between *chronological age* and the self concept measures and biserial correlations were used with *perceived age*.

An item analysis was performed to identify

TABLE 1
Means and Standard Deviations for Self Acceptance and Self Rejection Scores by Chronological and Perceived Age Groups
(N=83)

AGE GROUPS	N	SELF ACCEPTANCE		SELF REJECTION	
		MEANS	SD	MEANS	SD
CHRONOLOGICAL					
20-29	17	49.5	10.00	5.9	5.84
30-39	20	53.0	6.93	4.2	4.79
40-49	16	57.4	4.30	3.1	3.69
50-59	15	56.2	4.94	3.9	3.49
60-69	15	53.4	6.80	5.1	4.84
PERCEIVED					
Young	43	54.5	7.32	4.1	4.64
Middle-Old	40	53.1	2.66	4.8	4.94

fy the specific traits upon which individuals differ with age. A younger group (39 years of age and under) and an older group (50 years and over) were contrasted. The chi-square technique was used to test the significance of the differences between the groups.

In all statistical treatments, the 5% level was used as the accepted level of confidence.

stubborn than do older individuals. The traits, calm, cautious, dignified, mature, quiet, wise, and unnecessary were found to be more characteristic of older persons.

DISCUSSION

Because of the limited number of Ss and the nature of the sample used, the findings are only suggestive and subject to further research.

TABLE 2
Correlations Between Chronological and Perceived Age and Self Acceptance and Self Rejection Scores
(N=83)

CONCEPT OF AGE	SELF ACCEPTANCE	SELF REJECTION
Chronological	.17	-.02
Perceived	-.10	.07

It can be seen from the data summarized in Tables 1 and 2 that the correlations between self acceptance, self rejection and age were not significant. The hypotheses suggesting a decline in self acceptance and an increase in self rejection with age are not accepted.

The results suggest that similarities in self perception outweigh differences. Since the items on the scale were clearly either positive or negative, it is probable that the tendency of individuals to present themselves in the best possible light reduced some of the differences that might exist.

TABLE 3
Product-Moment Correlations, Correlation Ratios, and "F" Tests for Significance of Curvilinearity for Self Acceptance and Self Rejection Scores on Chronological Age
(N=83)

STATISTICAL MEASURE	SELF ACCEPTANCE	SELF REJECTION
Product-Moment r	.17	-.02
Correlation Ratios	.35	.21
"F" Test for Significance of Curvilinearity	2.76*	1.15

* Significant beyond the accepted level.

The data presented in Table 3 indicate a significant curvilinear relationship between *chronological age* and self acceptance. The relationship between *chronological age* and self rejection was not significant.

The results suggest that self acceptance increases from age 20, reaches a peak during the 50-59 year decade, and then begins to decline.

Item Analysis

Eleven of the items on the ACL significantly differentiated younger from older persons. More younger persons view themselves as athletic, reckless, mischievous, and

The similarities in self perception can also be expected in view of the fact that individuals do not change drastically with age. The scope and direction of the differences that do occur, however, provide some insight into the psychological aspects of aging.

The hypothesis that self acceptance decreases and self rejection increases with age was not sustained. It is believed, however, that the assumption underlying this hypothesis was too simple. It is true that when self acceptance and self rejection scores were correlated with age over a wide age band no relationships were found. Within limited age ranges, differences do occur on

a linear basis. From ages 20-49, for example, there is a rectilinear increase in self acceptance with a decrease during the 50-59 year period.

The findings therefore suggest a curvilinear relationship between *chronological age* and self acceptance, which lend support to the conclusions of Kuhlen(6, 7), Slotkin (10), and Buhler(3).

This curvilinear relationship can be variously interpreted. Both the theories of time perspective and that of life stages can be applied. These two theoretical positions are closely related but the time perspective advocates appear to be taking a narrow view of the effect of time on adjustment.

Time perspective theory contends that the realization by older people that time and life are finite results in loss of personal happiness and may contribute to adjustment problems, but this realization may be influenced by the extent to which problems arise in critical life situations. Time perspective may be viewed as one aspect of the theory of life stages which appears to be a much broader and more meaningful frame of reference from which to explain age differences in self perception.

Description of the Aging Process

Based on the results of the present study along with the previous findings of Kuhlen and Buhler's theory, the following description of the aging process was formulated. During the 20-29 year period, most individuals are confronted by personal problems in a number of areas for which they seek solution. Some of these problems are: the need to make a satisfactory vocational adjustment; increased responsibilities; anxiety over interpersonal, social, and sexual problems; and so forth. These adjustment problems lead to doubts concerning the individual's self worth or self esteem, hence self acceptance is at a low ebb. As the individual finds solutions for these problems, self acceptance increases, until in the 40's, most individuals have achieved some measure of stability. During the 50-59 year period, possibly as a result of the stereotypes of aging along with concrete evidence of slowdown in functioning, there comes the realization of getting old. The individual is again confronted by doubts and anxieties

and thus self acceptance declines.

Decline appears to set in during the 50-59 year period which is earlier than that suggested by Buhler but later than that hypothesized by Kuhlen.

The item analysis provides additional evidence on the nature of age differences in self perception. The adjectives chosen more frequently by older persons agree to some extent with the psychological criteria of old age outlined by Cavan, *et al.*(4), but particularly noteworthy is their close parallel to the positive stereotypes of aging. One can picture the dignified, mature, quiet, and wise older person. It would seem that older persons have incorporated these positive stereotypes into their self concepts. Although this may be a sign of defensiveness rather than of good adjustment, it should not be looked upon as a negative phenomenon. It may be viewed as an attempt by older persons to defend the self against the "external threat of aging" and therefore it serves an adjustive function.

SUMMARY

An adjective checklist, designed by selecting items which a group of "experts" agreed would differentiate younger from older persons and which was found to be adequately reliable and valid, was administered to 83 white male, VA surgical patients ranging in age from 20-69 years. Ss were asked to describe "the way you are."

Derived self acceptance and self rejection scores were correlated with *chronological age* and with a self rating of *perceived age*. Responses were analyzed to identify the specific traits which differentiate between individuals on the basis of age.

The findings indicate that similarities in self perception with age outweigh differences. A curvilinear relationship was found between *chronological age* and self acceptance supporting both the theories of life stages and time perspective. Self acceptance increases from the 20's until the 40-49 year period at which time there is a downward turn. The item analysis suggested that older persons incorporate certain of the positive stereotypes of aging into their self concepts. A description of the aging process was outlined.

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A FURTHER CLINICAL STUDY OF ANABOLIC STEROIDS IN INCONTINENCE¹

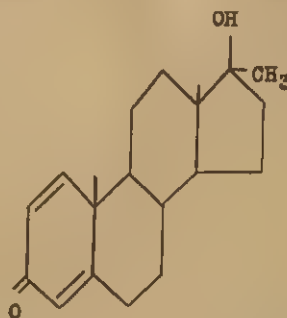
GEORGE VLAVIANOS, M.D., GIDEON SEAMAN, M.D., AND
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This is a further report of the therapeutic efficacy of the anabolic male steroids in fecal and urinary incontinence. The male hormone testosterone has been used in the enuretic patient with some success. We were stimulated by the observations of Eisenberg and Gordon on animals to determine the clinical usefulness of the anabolic compounds belonging to the androgenic group in bladder and bowel incontinence in humans. Eisenberg and Gordon observed that the levator ani muscle atrophies after castration, and that if muscle weight can be restored by treatment with potent anabolic androgenic steroids, it is evidence that these steroids have a true myotrophic action on the levator ani muscle (1). The question was raised by the authors (GV & MV), whether such a myotrophic effect produced in the human levator ani muscle might not result in a lessening of fecal and urinary incontinence.

The first clinical trial was conducted by one of us (GV with L. Fink) on 11 incontinent mental patients with the anabolic-androgenic steroid norethandrolone (Nilevar, Searle) with encouraging results (2). Further studies were done by Vaisberg, Michael and Saunders (3), Sherman (4), and Vaisberg and Saunders (5), confirming the preliminary results.

The search for compounds with the highest ratio of anabolic potency to androgenicity has continued. One of the most promising products of this search, methandrostenolone (Dianabol, Ciba)³ was selected for this study.

It is described as having the most potent anabolic activity of any of the agents currently available (6). Chemically, it is 17 α -methyl-17 β -hydroxyandrosta-1,4-dien-3-one.



METHOD

This 33-week study was divided into 3 phases. Sixteen male mental patients, incontinent of urine and/or feces were treated with Dianabol for 7 weeks (phase 1). They received 10 mg. of Dianabol orally in tablet form each morning. After cessation of medication aftereffects were carefully followed for 14 weeks (phase 2). Late effects were observed over an additional 12-week period (phase 3). Patients were selected regardless of psychiatric diagnosis or assumed etiology of incontinence. The only criterion for selection was persistent incontinence. The patients served as their own controls. Ten were white; 6 Negro. Ages varied from 39 to 71 years; average 59 years. Hospitalization ranged from 8 to 35 years, with a history of incontinence from 2 to 25 years; average 12 years. All 16 were incontinent of urine, and 12 were also incontinent of feces. The psychiatric diagnosis of this group are tabulated in Table 1. Three patients suffered from incontinence which would be considered to have a neurogenic cause. One was manic-depressive, and 12 belonged to the schizophrenic group, in which the incontinence might be considered a part of the behavior disturbance. All were ambu-

¹ We wish to express our appreciation to Charles Buckman, M.D., Senior Director of Kings Park State Hospital, Pompeo S. Milici, M.D., Assistant Director, and Reuben M. Cares, M.D., Director of Clinical Laboratories for their interest and cooperation. We are thankful to Joseph O'Neil, R.N., and the charge attendant Mr. William Moore and the ward personnel for their wholehearted thorough help. We are obliged to the Ciba Pharmaceutical Products Inc., Summit, New Jersey, for making this study possible by the generous supply of the medication.

² Kings Park State Hospital, Kings Park, N. Y.

³ Trademark of Ciba, Summit, New Jersey.

TABLE 1

Pt. No.	Pt. Name	Date of Admission	Color and Age	Incontinent Since	Results in Phases 1 & 2		Phase 3 U. and F.	Diagnosis
					In Urine	In Feces		
1.	A., W.	1/9/44	C-64	1947—U&F	3	2	1	Ps. w Sy. : Men-Enc. D.P.P.
2.	C., D.	4/9/28	W-71	1952—U&F	5	2	1	D.P.P.
3.	D., J.	4/11/33	W-66	1954—U&F	4	2	1	Man-Depr. : Mixed D.P.P.
4.	F., Ca.	1/5/53	W-47	1954—U	3	—	1	D.P.H.
5.	F., B.	1/23/46	C-39	1946—U&F	2	2	1	D.P.H.
6.	F., Co.	3/22/34	C-65	1936—U	2	—	1	D.P.S.
7.	G., L.	12/28/32	W-58	1947—U&F	5	3	1	D.P.P.
8.	L., V.	2/19/53	W-46	1954—U	2	—	1	D.P.P.
9.	M., M.	12/7/26	W-60	1947—U&F	2	2	1	D.P.P.
10.	N., W.	12/10/37	W-66	1950—U&F	4	2	1	Ps. w Sy. Men-Enc. D.P.P.
11.	N., A.	11/24/28	C-67	1941—U&F	2	2	1	D.P.C.
12.	R., Ch.	9/11/29	C-62	1950—U&F	4	2	1	D.P.C.
13.	R., L.	4/19/28	W-68	1948—U&F	4	2	1	D.P.P.
14.	R., Ed.	9/22/37	W-63	1948—U&F	5	4	1	D.P.H.
15.	S., A.	6/29/48	W-49	1952—U	2	—	1	Ps. d. to unknown : Left hemiplegia
16.	S., Ed.	1/14/49	C-47	1959—U&F	2	2	1	

Evaluation : Continent—1, very good improvement—2, good improvement—3, some improvement—4, no improvement—5.
 U—urinary incontinence.
 F—fecal incontinence.

latory, mentally-deteriorated cases, living in a closed ward. Some had been treated with ECT and insulin coma. The two syphilitic patients had received repeated series of antiluetic treatment with no improvement as to incontinence. Most had been on various psychotropic drugs over extended periods without any obvious trends toward continence. All medication and treatments were terminated before the initiation of the study. All were screened for interfering bladder, prostate, kidney and liver conditions. They were weighed before, during and after the study. The following laboratory studies were done before and after completion of the study : blood, total bilirubin, cholesterol esters, cephalin flocculation ; thymol turbidity, B.U.N., N.P.N., alkaline phosphatase, calcium, creatinine, total protein, A/G ratio ; complete blood count and differential, morphology, urine ; albumin, sugar, microscopic, creatinine.

Ward personnel were advised not to inform the patients about the purpose of this trial. Their deteriorated mental conditions, with outstanding indifference, lack of drive and interest, and deeply reduced intellectual capability facilitated this task. Per-

sonnel were further advised not to change any procedures concerning fluid and food intake or ward routine ; also not to make any of the usual efforts to prevent wetting or soiling. This new attitude was instituted before the start of the study in order to try to eliminate any antagonistic reactions on the part of the patients and any "conditioning circumstances" (7). No attempt at individualization of dosage was made in the resistant cases. Ward charts were kept on which the responses (wetting-w, soiling-s, and continence-o), were carefully registered daily for each of three 8-hour periods.

RESULTS

During phases 1 and 2, 7 of the 16 patients who were incontinent of urine showed very good improvement almost immediately and became continent (Nos. 5, 6, 8, 9, 11, 15, 16) ; 2 patients showed good improvement as to bladder control (Nos. 1 and 4) ; 4 patients showed some improvement (Nos. 3, 10, 12, 13). No initial improvement as to urinary incontinence occurred in 3 patients (Nos. 2, 7, 14). During phase 3 all patients became continent of urine.

Of the 12 patients, incontinent additionally of feces, 10 showed very good improvement and became continent of feces (Nos. 1, 2, 3, 5, 9, 10, 11, 12, 13, 16); 1 showed a slow but progressively good improvement (No. 7); and 1 showed some improvement as to fecal incontinence (No. 14). The 2 latter patients became continent of feces during phase 3. Their improvement might be considered a late reaction. All 16 patients were continent of urine and feces during phase 3. Two expressed subjectively, and evidenced objectively, an improvement in general physical condition as to vigor, though weight remained steady (Nos. 5 and 9). There were no significant weight changes observed in the whole group. Three showed some improvement in mental condition (Nos. 8, 9, 16). They were observed to be in better contact, more alert, and more active. They started to work on the ward. Laboratory findings remained within normal limits. There were no side-effects; no jaundice(8) was observed.

DISCUSSION

We became interested in helping the incontinent patient as incontinence is one of the main factors which makes the elderly patient unfit for domiciliary care and leads to his admission to a mental institution. In the mental institution the incontinent patient presents a severe nursing problem. The situation is aggravated by the shortage of nursing personnel. Unfortunately, the physician in the mental institution has shown a *laissez-faire* attitude toward this problem in the past. We are well aware that it would be foolhardy to believe that any one agent would be effective in correcting all the types of incontinence which Jackman classifies (referring specifically to fecal incontinence) as: 1. Traumatic; 2. Congenital; 3. Acquired(9).

Many of the incontinent patients will be helped only by surgical intervention. Frequently incontinence is the price paid for life-saving surgery, and plastic surgical methods, such as transplantation of the gracilis muscle, have been recommended for rectal incontinence(10). It would be of great interest to learn from the surgeon and proctologist whether conservative treatment with anabolic steroids might be

of help in some cases considered at present as surgical, or in the aftercare of such cases in which surgery is strictly indicated as a life-saving method.

The mechanisms by which the anabolic agents may exert a clinically observed effect on bladder and bowel incontinence are still poorly understood. Gaston(11, 12) subdivides fecal incontinence into "sphincteric continence" and "reservoir continence" and explains that both sphincteric and reservoir continence must be retained if normal fecal control is to be preserved. It is beyond the scope of this study to discuss the various methods designed by Gaston and others for the study of the physiology of the sphincteric apparatus. This study with assumed myotrophic effect of the steroids on the anal musculature may give an impetus to look at previous physiological concepts from a new angle, and may lead to further physiological experimentation on humans which may affirm the still hypothetical pharmacodynamic action.

In order to study or to exclude any placebo action, conditioning circumstances, or the influence of individual and cultural determinants, the present dramatic results warrant further trials. The studies should be extended to a variety of patients with various etiologies of incontinence, and to different environmental and cultural settings (7, 13, 14, 15, 16).

The effect of the anabolic male steroids in female incontinent patients and in children is also worthy of investigation.

SUMMARY

Inability to restrain bodily discharges is a problem of both individual and social concern. In the mental institution the incontinent patient presents a severe nursing problem. After preliminary encouraging results obtained in a previous clinical trial, and confirmed by other authors, a further 33-week clinical study was conducted on 16 male patients with bladder and/or bowel incontinence with a new anabolic steroid (Dianabol). The dramatic results of continence in all 16 patients whose physical and mental resources were of the lowest, encourages us to recommend the anabolic androgensteroids in bladder and bowel incontinence for clinical trials on patients

both in and outside the "back wards" of a mental institution.

Further studies of the hypothesized pharmacodynamic effect of the anabolic male steroids on the incontinent patient are warranted. These should include physiological experiments, double-blind studies on patients with various physical and mental conditions and causes of incontinence, and studies in different environmental and cultural settings. There should be emphasis on possible psychosociological and placebo factors.

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CLINICAL NOTES

(The Clinical Notes report the findings of the authors and do not necessarily represent the opinions of the Journal.)

MELLARIL IN THE TREATMENT OF THE GERIATRIC PATIENT

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A review of the literature appears to indicate that relatively little attention has been paid to the effects of ataractic drugs and to the special problem of reactions they are more likely to induce in the older-aged psychiatric patient. One of the most serious of these is hypotension, which the phenothiazines are especially prone to cause in the elderly patient. Since many of these patients are already functioning on a reduced cerebral blood supply because of cerebral arteriosclerosis, any fall in blood pressure is apt to have severe vascular repercussions or

to precipitate an acute psychotic reaction from which the patient may fail to recover. Another well-recognized drawback to the use of ataraxics is their frequent tendency to produce or accentuate depression in the aged patient.

Mindful of these complications which were encountered to a lesser or greater degree with previously employed phenothiazines, a study of Mellaril was conducted over a period of 8 months, during which special attention was paid to toleration. There were 69 inpatients and 41 outpatients, ranging in age from 65 to 88. Diagnoses are shown in Table 1 with most patients presenting symptomatology related to organic brain processes and psychoses.

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TABLE 1

DIAGNOSIS	NO. OF PATIENTS	MARKEDLY IMPROVED	IMPROVED	NO CHANGE	WORSE
Inpatients :					
Chronic brain syndrome with cerebral arteriosclerosis	19	10	6	3	0
Above with psychotic reaction	13	2	7	4	0
Chronic brain syndrome with senile brain disease	11	8	1	1	1
Above with psychotic reaction	7	1	5	1	0
Schizophrenic reaction : chronic, undifferentiated	7	0	3	2	2
Psychoneurotic disorder, depressive reaction	3	0	3	0	0
Psychoneurotic disorder, anxiety reaction	2	2	0	0	0
Involuntional psychotic reaction	7	0	4	3	0
(Inpatient) Total	69	23	29	14	3
Outpatients :					
Chronic brain syndrome with arteriosclerosis	18	14	3	0	1
Above with psychotic reaction	2	0	2	0	0
Chronic brain syndrome with senile brain disease	12	8	2	1	1
Above with psychotic reaction	3	0	2	1	0
Psychoneurotic disorder, depressive reaction	3	0	2	1	0
Involuntional psychotic reaction	3	0	2	1	0
(Outpatient) Total	41	22	13	4	2
Grand Total	110	45	42	18	5

Dosage was individualized as much as possible, the average being 100 mg. t.i.d., with a maximum of 300 mg. t.i.d. used in 10 hospitalized patients without any apparent deleterious effect.

Results are shown in Table 1, the criteria for assessment being the effect on confusion and agitation. These states appear to be closely related to basic anxiety resulting from failure of the patient's personality to cope with progressive organic changes(1). The ability of Mellaril to relieve or attenuate the causal anxiety was reflected in the control of agitation and a marked alteration from confusion to a sense of well-being and in many instances, alertness.

Even though special attention was focused on blood pressure, not one case of hypotension sufficiently severe to warrant discontinuation of the drug was found. Equally noteworthy was the absence of depression or aggravation thereof, in spite of the high doses used in some of these cases. Four patients exhibited allergic reactions manifested by cutaneous erythema which cleared up rapidly on discontinuation of the drug. Extrapyramidal symptoms of a mild degree occurred in 5 patients and responded readily to benztropine methanesulfonate. Frequent examinations failed to reveal any blood changes or other serious side-effects.

An important consequence of Mellaril's efficacy was its influence on admissions and

discharges. When the value of Mellaril was noted in the inpatients soon after the start of this study, its use was instituted in a number of presenting patients, starting with doses of 100 mg. t.i.d. and adjusting as necessary. Analysis of the data revealed that this procedure reduced the admissions by 40%. Equally gratifying was the stability of emotional adjustment in the discharged patients who were continued on maintenance doses of Mellaril. Sufficient confirmation has been obtained to demonstrate the importance of continuation of therapy to prevent relapses in discharged patients. The virtual absence of serious side-effects encountered in this series appears to make Mellaril especially advantageous for outpatient treatment.

SUMMARY

A clinical evaluation of Mellaril in 110 patients confirms its efficacy(2) in the treatment of geriatric psychiatric patients. Enhancing its usefulness was the high degree of toleration noted in this series, an important consideration in the care of the elderly patient.

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FIVE-MINUTE PSYCHOTHERAPY

GEORGE A. ZIRKLE, Ph.D.¹

It has been observed that stopping for a moment to exchange greetings or comments with a mental patient on ward rounds usually has salutary effect, especially in the case of the withdrawn patient. The usual formal psychotherapy period is from a half to a full hour. Could it be that much shorter and more frequent contacts of a formal kind would have any advantage? The research reported herein was designed to yield empirical data on the question: Will there

be any difference in results from very brief but frequent psychotherapeutic sessions with schizophrenic hospital patients as compared with longer contacts for the same total amount of time?

Three groups of 10 patients each were chosen for this trial. Group I (the "5-minute group") were seen individually for 5 minutes daily Monday through Friday for a total of 25 minutes for the week. Group II (the "25-minute group") were seen individually once each week for 25 minutes.

The experiment was conducted over a 2-month period during the summer of 1960.

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There were 32 contacts with each man in the 5-minute group, 6 contacts with 7 of the men in the 25-minute group, and 7 with the remaining 3. A control group of 10 matched men were not seen therapeutically.

In consultation with the research committee of Madison State Hospital, the decision was made to use patients on a chronic male ward as subjects. All 30 men were chosen from one ward in order to keep conditions for the 3 groups as constant as possible. All were classified as schizophrenic. The average age of men in the 5-minute group was 50.6 (range 41 to 66). For the 25-minute group the average age was 50.3 (range 34 to 60). In the control group the average age was 50.3 (range 41 to 60). Average time of hospital residence was 19.9 years for the 5-minute group (range, 9-29 years); 18.2 years for the 25-minute group (range, 4-31 years); 20.8 years for the control group (range, 2-36 years). In each of the 3 groups, there were 4 men who had hospital jobs off the ward. It will be seen that the groups were fairly well equated on the points noted.

A number of psychotherapists have observed that establishment of a warm and accepting relationship with the schizophrenic patient has good effect in promoting remission of his illness. Patients were seen in a private room off the ward dayroom and friendly talk ranged mainly about ward and hospital happenings, the patient's experiences, and the author's experiences. On a few occasions when a tentative attempt was made to do some probing on the dynamics of an illness, defensive withdrawal

a whole with the 5-minute group. Indeed some of the patients stated that they would miss the talks when informed that the author must return to the classroom. Tears came to the eyes of one patient in the 5-minute group.

To measure possible improvement as objectively as possible, a simple 11-factor graphic rating scale was created. Three persons were asked to rate the 30 subjects; they were the ward doctor, the ward nursing supervisor, and the head day attendant on the ward. The head attendant would be aware of the group classification of the subjects, for he assisted in getting patients to the therapy room. The other 2 raters were not informed of the classification of the subjects.

Raters were asked to mark scales on the men prior to the beginning of therapy sessions, and at the conclusion of the research. The 11 scales to be marked were: the patient's social contacts, his personal habits, emotional control, spontaneity or naturalness of speech, spontaneity and appropriateness of interest and emotion, willingness to cooperate in ward duties, awareness of and concern for feelings or needs of others, participation in activity therapies, capability of handling a hospital job, interest in returning to the community, degree of adjustment as compared to a few weeks ago.

Each scale was divided into 5 sectors with 2 intervals in each sector. This permitted a more sensitive mathematical treatment than the 5-point scale would have provided. A sample of the first item will clarify the format.

SOCIAL CONTACTS OF PATIENT WITH OTHERS

1	2	3	4	5	6	7	8	9	0
Pays no attention to others		Watches others occasionally	Watches others frequently		Makes some contacts on his own		Makes frequent voluntary contacts		

by the patient resulted. The author felt therefore that the benefit from the interview for the patient was deriving largely from the relationship established rather than from any verbal attempt at mental reconstruction.

As might be expected, the degree of rapport achieved varied widely with different patients. It was the author's distinct impression that this degree was greater as

RESULTS

Pre- and post-therapy numerical ratings of the 3 judges were combined, as shown in Table I.

It will be noted that greater improvement was registered in both therapy groups than in the control group, the greatest being in the 5-minute group. The *t* values for the difference between mean increase in ratings of the 5-minute group over the 25-minute

TABLE 1
Pre- and Post-Therapy Ratings of 3 Judges

Group	Pre-therapy	Post-therapy	Diff.	Percent Diff.	t of Diff. Between 5-min. & Other Groups
5-minute	1272	1490	218	17.1	
25-minute	1180	1261	81	6.9	1.85 ($p < .10$)
Control	1193	1255	62	5.2	1.78 ($p < .10$)

group (1.85) and the control group (1.78) are both significant at the 10% level. The difference between means for the 25-minute and control groups gave a t of only .221.

Scale ratings showed improvement for 9 out of 10 men in the 5-minute group; 8 out of 10 in the 25-minute group; and 5 out of 10 in the control group.

The sensitivity with which the different scale items registered change in the 2 therapy groups varied substantially. For patients showing improvement, the greatest change was shown by the item measuring patient's participation in activity therapies. In order of decreasing sensitivity the next 6 items were: emotional control, willingness to cooperate in ward duties, personal habits, social contacts, spontaneity and appropriateness of interest and emotion, and capability for handling a hospital job. The

item spontaneity or naturalness of speech showed the least change over the 2-month experimental period.

CONCLUSIONS

Under the conditions of this experiment, the data point to an advantage of 5-minute therapy sessions over 25-minute ones. With other types of patients and with other types of therapy the results would probably have been different. For the reported situation, however, empirical support was provided for the clinical observation that frequent short-term contacts with ward patients have real therapeutic value. Though the experimental trend is pointed, a definitive answer on the relative merits of frequent short term versus infrequent longer term psychotherapy periods must await much fuller evidence.

ELAVIL IN THE TREATMENT OF AFFECTIVE DISORDERS (AND COMPARISON WITH TOFRANIL)

JANE E. OLTMAN, M.D., AND SAMUEL FRIEDMAN, M.D.¹

This is a report of our experiences with Elavil,² a non-MAO inhibitor, in the treatment of 50 female patients with acute or recurrent depressive illnesses. They ranged in age from 21 to 80; 52% were in the 5th and 6th decades of life. Dosage was initiated at 25 mg. t.i.d., and ranged from 75 to 150 mg. daily. Diagnostic classification of the group is indicated in Table 1. This was essentially a "blind" study as other patients were being treated concurrently with other antidepressant agents; the drug adminis-

tered to each patient was unknown to the rating examiner.

As in a previous study, results were designated as satisfactory (A level) in patients who achieved a remission or much improved status, or as unsatisfactory (B level) in those who failed to improve or exhibited partial improvement only. As indicated in Table 1, 72% of the group achieved a satisfactory result.

Complications or side effects were minimal; in fact the least produced by the 3 antidepressants that we have used extensively thus far. The most frequent side effect was drowsiness, present in 11 patients (22%). This was apparently chiefly a sub-

¹ Respectively, Clinical Dir., and Asst. Supt., Fairfield State Hospital, Newtown, Conn.

² Generous supplies of Elavil were furnished by Merck Sharp & Dohme.

TABLE 1
Results of Treatment with Elavil and Tofranil in Affective Disorders

	ELAVIL				TOFRANIL			
	Total No.	A	B	%A	Total No.	A	B	%B
Psychoneurotic depressive reaction	17	13	4	76%	22	15	7	68%
Involuntional reaction	9	6	3	67%	9	5	4	56%
Manic-depressive reaction	16	11	5	69%	34	23	11	68%
Psychotic depressive reaction	5	4	1	80%	14	13	1	93%
Senile with depressive reaction	3	2	1	67%	1	1	0	100%
Totals	50	36	14	72%	80	57	23	71%

jective feeling, as somnolence was not observed objectively. It was present chiefly during the first week of therapy, and tended to disappear thereafter. Seven patients experienced mild dizziness; 1, a "floating sensation"; 3, constipation; 3, "dry mouth"; and 1, slight edema of the ankles. Specific inquiry failed to reveal excessive perspiration despite the presence of warm weather. One patient had a slightly elevated transaminase level (55 U) and alkaline phosphatase (7.3 U) without other pertinent clinical findings. One patient developed a manic swing during the maintenance phase of therapy.

A comparison with data in a series of 80 patients treated with Tofranil, a related compound, indicates quite similar therapeutic results with both drugs. Tofranil effected a satisfactory outcome in 71% of patients, as compared with 72% for Elavil. The relative speed of action also appeared to be practically identical. In each instance, only 28% of patients who achieved a satisfactory result required more than 4 weeks for optimal effect. The incidence of side effects with Elavil appeared to be less than that encountered with Tofranil.

In 5 cases (4 manic-depressives and 1

reactive depression) both drugs, used in tandem, failed. In 1 instance, a patient unsuccessfully treated with Tofranil in an earlier episode achieved an excellent result with Elavil. This was a manic-depressive individual with metastatic carcinoma of the breast. One patient with neurotic depression who had previously recovered with Tofranil failed to do so with Elavil.

It may be noted in passing that best results with antidepressant drugs are apparent in the group of "psychotic depressive reaction." Thus, 29 of 33 patients (88%) in this category treated with 1 of 3 antidepressant agents (Elavil, Tofranil or Marplan) achieved an A level of improvement. This would tend to imply that optimal results are obtained in cases in which strong constitutional or endogenous factors are less significant than they are in the manic-depressive group, for example.

CONCLUSIONS

Elavil is an effective antidepressant agent. Side effects, with the dosage employed, are slight. It appears that efficacious antidepressant drugs will produce successful results in some 70 to 75% of patients with affective disorders as a whole.

AN EFFECTIVE DRUG COMBINATION

R. E. KENNEDY, M.D., AND D. L. ARNETT, M.D.¹

New drugs having action on the nervous system are being developed in such profusion as to present both a challenge and an

opportunity to practicing psychiatrists. In 1959, a brief note concerning treatment at this hospital was reported.² Since then, insulin coma therapy has been completely

¹ Respectively, Clinical Director and Resident Psychiatrist, Rollman Receiving Hospital and State Institute of Psychiatry, Cincinnati, Ohio.

² Hayes, J. B., and Kennedy, R. E.: *Am. J. Psychiat.*, 116: 164, Aug. 1959.

abandoned, but perphenazine (Trilafon)³ continues to be a mainstay on our treatment program.

We attempt to screen all promising new drugs as soon as they become available. Those that possess definite superiority tend to supplant even those with which we have gained familiarity, and in which we have some degree of confidence. This process is not entirely painless, and involves effort and some risk, but seems very worthwhile in terms of benefit to patients. Our patients now stay in the hospital a shorter period, and outpatient follow-up has proved more effective.

As of this date, the combination of drugs that has proved most effective, in our hands, is perphenazine and amitriptyline (Elavil).⁴ This combination is used in both major and minor functional reactions in various doses up to the limits recommended by the manufacturers. While effective dosage is to some extent dependent on the individual, we find that in general, patients with major reactions require higher doses than those with minor reactions.

In order to avoid the occasional disagree-

³ Manufactured by Schering.

⁴ Elavil was generously donated by Merck Sharp & Dohme.

able reaction to perphenazine, we have adopted the practice of giving an anti-parkinson drug—usually bethtropine methanesulfonate (Cogentin)⁵—from the start of treatment. Since we have employed this procedure, we have seen no evidence of drug induced parkinsonism whatsoever.

One of the practical difficulties associated with our present routine appears when the patient leaves the hospital and becomes an outpatient. Continued treatment with drugs is usually indicated, but involves the use of 3 separate tablets which need to be repeated several times a day. We would like to see our combination developed into a single, long-acting tablet, to solve this problem.

Although we have used the Trilafon-Elavil-Cogentin combination only a few months, the amount of ECT given at this hospital has been drastically reduced. In the drug treated cases, improvement is surprisingly rapid and often occurs in the first week. Our early results have been so encouraging that we are lead to conclude that chemotherapy warrants an extended and rigidly controlled trial as, possibly, the ascendant method of treatment in psychiatry, for the hospitalized and office patient alike.

⁵ Manufactured by Merck Sharp & Dohme.

DUAL PHARMACOTHERAPY IN GROSSLY DISTURBED PSYCHOTIC PATIENTS

EUGENE N. DYE, M.D.¹

The following study was undertaken as a result of the observed clinical response when chlordiazepoxide hydrochloride ("Librium"—Hoffmann-La Roche) was combined with chlorpromazine in a disturbed schizophrenic patient in whom chlorpromazine alone and in combination with a variety of sedatives has produced little effect other than drowsiness. The criteria on which we based our subsequent selection of patients were simply the gross character of their disturbance, the refractory nature of their response to other forms of pharmacotherapy

and the overwhelming presence of hyperactivity and anxiety in their symptomatology. As might be expected, patients diagnosed as paranoid schizophrenics predominated, amounting to 50% of the group here presented. Combined drug therapy was given in 22 hospitalized cases (18 with schizophrenic diagnoses and 4 with manic-depressive psychosis) with excellent response, *i.e.*, complete remission of gross psychotic symptoms in 17 (77%), good response in 3, and only transient improvement in 2 cases, one of which developed dizziness and ataxia to a degree which made it necessary to discontinue the medication.

¹ Clinical Director, Gracie Square Hospital, New York City.

Although common to all these cases were symptoms of hyperactivity and anxiety, most of the patients displayed grossly disturbed behavior, *i.e.*, destructiveness, combativeness and blatant delusional thinking. In most of the cases, chlorpromazine alone had produced inadequate response in terms of controlling psychotic symptomatology until the addition of "Librium."

Our dosage regime varied with the individual and the severity of the symptoms. However, the combination which seemed to provide the best response in the largest percentage of patients was chlorpromazine 100 mgm. q.i.d. with "Librium" 10 mgm. q.i.d. as a standard starting dose increased over a three-day period to a maximum of 300 mgm. q.i.d. and 30 mgm. q.i.d. respectively. We usually found that as this dosage began to show therapeutic effect with reduction of symptoms of psychotic proportions, the dose could be levelled off and gradually reduced to a maintenance level which most commonly approximated our standard starting dose. This symptomatic improvement occurred most often with little of the side effect of high doses of chlorpromazine alone. In most cases the reduction was started after 7 to 10 days of combined therapy and in some, within the first week. At this point, psychotherapeutic procedures could be instituted in a now ac-

cessible patient. "Librium" was then discontinued entirely after varying intervals (1 to 4 weeks) while the patient continued on maintenance doses of chlorpromazine without recrudescence of symptoms.

The conclusions which we drew from this series, limited in number and empirical though it is, were that it appeared that chlordiazepoxide hydrochloride when combined with chlorpromazine produced a more rapid therapeutic effect than chlorpromazine alone and furthermore, potentiated the tranquilizing and anti-psychotic properties of chlorpromazine without promoting excessively the side effects of drowsiness and neuroplegic manifestations. An additional unique advantage of this particular dual pharmacotherapy we felt was the fact that it could be used in combination with electroconvulsive therapy by maintaining the patient at a much lower dose level of chlorpromazine while achieving the maximum tranquilizing potential of the drug. In several of the patients, in addition, ECT was contraindicated, either because of poor prior response or refusal on part of the families to consent to electrotherapy. In one case of paranoid schizophrenia, the combination produced a full remission in a patient who had relapsed within a week after showing a good response to 20 electroconvulsive treatments.

WITHDRAWAL SYMPTOMS FOLLOWING DISCONTINUATION OF IMIPRAMINE THERAPY¹

JOHN C. KRAMER, M.D.,² DONALD F. KLEIN, M.D.,³
AND MAX FINK, M.D.⁴

On discontinuation of imipramine⁵ treatment some psychiatric patients reported nausea, vomiting, dizziness, coryza, muscu-

lar pains and malaise. The symptoms were first regarded as conversion phenomena, but after several repetitions were considered due to physiological withdrawal.

Of the patients treated with imipramine 45 had been observed within the hospital during withdrawal of medication. Treatment was instituted with oral doses of 75 mg. daily and usually increased each week in 75 mg. steps. The daily maintenance dose was 300 mg./day in 34 patients, more than 300 mg./day in 3 patients, and less than

¹ Aided, in part, by grant MY-2715 of National Institute of Mental Health, National Institutes of Health, USPHS.

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⁵ The cooperation and assistance of Geigy Pharmaceuticals is gratefully acknowledged.

300 mg./day in 8 patients.

We reviewed our interview records and the daily nursing notes, noting reports of withdrawal symptoms within 48 hours of cessation of medication in 25 of the 45 patients. Most prominent were nausea with or without vomiting—16 subjects, headache—10, giddiness—10, coryza—8, chills—6, weakness and fatigue—5, and musculoskeletal pain—4.

Twenty-two of 26 patients treated for 2 months or longer reported withdrawal symptoms, while only 3 of 19 patients treated less than 2 months reported similar symptoms ($p < .001$).

The 25 patients who had been treated for more than 2 months were rated for severity of symptomatology. The reaction was scored as "marked" if subjects reported more than 2 different symptoms with significant distress and as "minimal" if they reported fewer than 2 symptoms causing minor distress, or no symptoms. Of 13 patients with a medication tapering and termination period of less than 2 weeks, 8 had marked withdrawal symptoms and 5 minimal. Of 12 with a medication termination period longer than 2 weeks, only 2 subjects demonstrated marked withdrawal symptoms ($p = .05$).

These results are in keeping with the general experience that the intensity of physiological withdrawal symptoms is directly proportional to the duration of drug administration and the abruptness of withdrawal. We could not relate the withdrawal syndrome to the size of the maintenance dose, since our range was too small. However, our modal schedule of 300 mg. per day is larger than the usual clinical schedule of 100 to 150 mg. per day and may account for the inconspicuousness of this phenomenon in other studies.

We observed that allowing a period of 2-4 weeks for withdrawal was prophylactically effective. When symptoms on imipramine discontinuation occurred they could readily be treated by resuming imipramine at 50 mg. daily and gradually decreasing over a 1-week period.

DISCUSSION

A physiological withdrawal syndrome following the termination of treatment with opiates, demerol, barbiturates, glutethimide, alcohol, chlorpromazine and meprobamate is well known. Recently withdrawal symptoms with methaminodiazepoxide(2), nialamide(1) and alpha-ethyltryptamine(5) have been reported. Kuhn(3) and Mann and Macpherson(4) have also reported symptoms on abrupt imipramine withdrawal.

Until recently the physiological withdrawal syndrome was considered restricted to CNS "depressants" such as opiates, barbiturates and alcohol. This was confirmed by the absence of such a syndrome with "stimulant" drugs such as cocaine, d-amphetamine, marijuana, mescaline and LSD. The occurrence of such a syndrome with imipramine, nialamide, and alpha-ethyltryptamine is of considerable interest, therefore, since these drugs have been loosely referred to as "psychic energizers" with energetic effects similar to "stimulant" drugs. It is apparent that a simple depression-stimulation dimension is inadequate to describe the complexity of drug effect both physiologically and behaviorally.

The withdrawal syndrome complicates the evaluation of patients after drug discontinuation since both patients and physicians often interpret the onset of symptoms as an upsurge of "anxiety" related to incipient relapse, and resume treatment with the gratifying subsidence of the "anxiety." This may cause both patients and physicians to overvalue the importance of the medication to the patient's stability.

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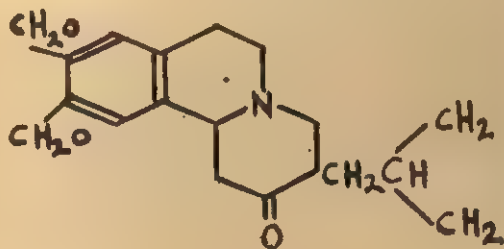
TETRABENACINE TREATMENT IN PERSISTING DYSKINESIA CAUSED BY PSYCHOPHARMACA

ERIK BRANDRUP, M.D.¹

In some of the many works published in recent years on catecholamine metabolism the authors claim that dopamine, besides being a precursor of adrenaline/noradrenaline, also plays a specific role in the control of motor functions(1, 3, 4). Thus Carlsson and co-workers(4) have set up the hypothesis that excess of dopamine in the brain is accompanied by motor hyperactivity, whereas a reduced level of dopamine results in hypokinetic activity. As, furthermore, it appears that benzochinolizine derivatives are able to deplete the brain of its catecholamine depots(5, 6), it is natural to assume that agents of this group counteract diseases with motor hyperactivity. This is supported by clinical experience, since tetrabenazine, which is a benzochinolizine derivative (Nitoman®),² seems to have a counteracting effect on the abnormal movements in Huntington's chorea(2, 7).

These circumstances have inspired us to carry out a pilot experiment with tetrabenazine in cases of persisting dyskinesia caused by psychopharmaca.

tetrabenazine



RESULTS

We have treated 4 male patients from 56 to 77 years old, 3 of them suffering for many years from schizophrenia and one from arteriosclerotic dementia. In 2 of the schizophrenic cases dyskinesia arose in con-

nection with thioridazine treatment, and in spite of changing to haloperidol and chlorprothixene the abnormal movements persisted unchanged for 1½ and 2 years. The third schizophrenic developed dyskinesia during treatment with perphenazine, and the abnormal movements remained unabated, although for 18 months prior to the experiment the patient had not been subject to pharmacotherapy. Finally, in the case of the patient with dementia, dyskinesia was first observed 1 month after the termination of treatment with haloperidol and thioridazine.

The abnormal movements were seen in the face, in the legs and the trunk. The facial movements were identical with the syndrome described among others by Uhrbrand and Faurbye(8), namely incessant, involuntary munching and masticatory movements of the jaw, during which the tongue is protruded at short intervals with grimaces of the lips. The movements of the legs appeared as incessant shuffling and/or coarse tremor. Finally, the movements of the body were rocking and torsionary, in one patient accompanied by rhythmical contractions of the abdominal muscles.

In all 4 cases anti-parkinson compounds like bztropine and orphenadrine were tried, but without recognizable effect.

The treatment with tetrabenazine lasted from 1½ to 3½ months. In the schizophrenic cases dyskinesia disappeared almost completely in the course of a couple of days on a 24-hour dose of 75 mg. administered in 3 portions. No side effects were observed with these patients, *e.g.*, the psychosis seemed to be unaffected. As regards the patient with dementia a 24-hour dosage of 150-300 mg. was necessary to stop the dyskinetic movements, and simultaneously a certain degree of drowsiness appeared.

After some weeks the tetrabenazine treatment was experimentally discontinued for 8 days, which resulted in the abnormal movements recurring within a couple of days in all the patients; after resumption

¹ Sct. Hans Mental Hospital, Roskilde, Denmark.

² F. Hoffmann-La Roche & Co. A. G., Basel, have most readily placed the necessary amount of Nitoman® at our disposal.

of the treatment dyskinesia disappeared just as quickly.

SUMMARY

In 3 patients suffering from schizophrenia and one patient with arteriosclerotic dementia persisting dyskinetic movements caused by psychopharmaca disappeared almost or completely after treatment with tetrabenazine (Nitoman®). The schizophrenics received a daily dose of 75 mg., whereas it was necessary to give the patient with dementia 150-300 mg. per day in order to obtain a satisfactory effect. This patient responded by developing a certain degree of drowsiness, while no side effects were observed in the other cases.

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A COMPARISON OF THE EFFECTIVENESS OF TRIFLUOPERAZINE AND CHLORPROMAZINE IN SCHIZOPHRENIA

ROBIE T. CHILDERS, JR., M.D., AND RICHARD THERRIEN, B.S.^{1, 2}

This study compares the effectiveness of trifluoperazine and chlorpromazine in the treatment of schizophrenia and evaluates the addition of ECT in those patients who failed to improve on these drugs.

Forty-eight patients newly admitted and diagnosed as schizophrenic comprised the study group. There were 2 main groups of patients : 26 chronic undifferentiated schizophrenics and 16 paranoid patients. The patients were between 17 and 57 years, average age 37 ; average I.Q. was 82 with range from 0 to 122.

The patients were assigned sequentially as they were admitted to Group A, B, C, or D. Those in Group A received chlorpromazine, 1000 mg. daily ; Group B received trifluoperazine, 40 mg. daily ; Group C received placebo ; and Group D served as a no treatment control. Medication was administered in concentrate form for 28 days at which time it was reduced to maintenance levels.

Shortly after admission and at weekly

intervals psychiatric interviews, ward evaluations, and psychological testings were performed. The psychiatric interview was a scorable procedure covering appearance, psychomotor rate, speech and associative processes, affect, and mental content. The patients did not receive any other tranquilizers, antidepressants, or ECT during the first part of the study.

At the end of the first 35 days, patients in Groups C and D who had failed to improve were placed in either Group A or B for active medication. Finally, patients who failed to improve on medication alone received a course of 15 ECT at the rate of 3 per week concurrently with either 500 mg. of chlorpromazine or 20 mg. of trifluoperazine daily.

Patient response to therapy was graded simply as "moderate to marked improvement" and "slight or no improvement." Fifty percent of patients on chlorpromazine and trifluoperazine improved. Only one of the 24 patients in Groups C and D improved (on placebo) and did not require active drug.

The major changes observed at the psychiatric interview were disappearance of abnormal ideation, development of insight,

¹ Richmond State Hospital, Richmond, Ind.

² Appreciation is expressed to Dr. Jefferson Klepper, Superintendent of Richmond State Hospital for permission to conduct, and for his cooperation in carrying out, this study.

and improvement in the associative processes.

A psychological evaluation which consisted of a test-retest design using 8 subtests from the Wechsler Adult Intelligence Scale for extracting group differences displayed no significant group changes. Apparent trends which may warrant further investigation are summarized in Table 1. The only

The 23 treatment failures of Groups C and D who were then treated with active medication responded as follows: 6 of the 10 patients treated with chlorpromazine improved and 5 of the 13 treated with trifluoperazine improved.

Twenty-three patients from all 4 groups had failed to respond to chlorpromazine and trifluoperazine and were switched to the

TABLE 1

	Inf.	Voc.	Sim.	Comp.	Arith.	DI. Sp.	DI. Sy.	Bl. Dn.
	<u>CT</u>	<u>CT</u>	<u>C</u>	<u>T</u>	<u>T</u>	<u>CT</u>	<u>CT</u>	<u>Con.</u>
Enhanced No change or Retarded	P Con.	P Con.	P Con.	CP	CP Con.	P Con.	P Con.	CTP

Inf.—Information, Voc.—Vocabulary, Sim.—Similarities, Comp.—Comprehension, Arith.—Arithmetic, DI. Sp.—Digit Span, DI. Sy.—Digit Symbol, Bl. Dn.—Block Design, C—Chlorpromazine, T—Trifluoperazine, P—Placebo, Con.—Control. Underlined letters developed the strongest trends.

obvious finding from the Wechsler evaluation was that test improvement and psychiatric improvement are not necessarily the same. Several subjects who improved socially were somewhat retarded intellectually while other subjects were both socially and intellectually improved. There were other discrepancies like the above despite overall consistency in both the psychological and psychiatric judgments of subject improvement.

The above implies selective action present in the 2 phenothiazines which may either increase or decrease certain behavioral functions which seemingly underlie the included Wechsler subtests. If this hypothesis proves to be valid, isolation of the changeable factors and delineation of sites of drug action could lead to more sophisticated treatment programs for patient resocialization.

other drug and ECT as previously described. Six of 12 patients treated with chlorpromazine and ECT improved and 5 of the 11 treated with trifluoperazine and ECT improved.

In total, 72% of the 47 patients who received treatment improved and one-half of these are out of the hospital.

Chlorpromazine was almost twice as effective as trifluoperazine in the treatment of chronic undifferentiated schizophrenia (Table 2). Trifluoperazine, however, appeared to be more effective in paranoid schizophrenia.

Side effects (Table 3) were of the same type and frequency as reported by others. Parkinsonism, akathisia, and dyskinesia responded to Cogentin. Drowsiness and dizziness tended to become less prominent as treatment progressed.

TABLE 2
Number of Patients Improved in Terms of Diagnosis and Treatment Modality

DIAGNOSIS	Total Number of Pts.	CHLORPROMAZINE		TRIFLUOPERAZINE		CHLOR. + ECT		TRIFLU. + ECT	
		Number of Pts.	Number Improved	Number of Pts.	Number Improved	Number of Pts.	Number Improved	Number of Pts.	Number Improved
Chronic Undiff.	25	13	11	12	5	5	3	4	2
Paranoid	16	6	1	10	5	5	2	5	3
Schizo-affective	3	1	1	2	1	1	1	—	—
Hebephrenic	2	1	0	1	0	1	0	1	0
Simple	1	1	0	—	—	—	—	1	0
	47 ^a	22	13	25	11	12	6	11	5

^a Patient who improved on placebo not included in this table.

TABLE 3
Side Effects

	CHLORPROMAZINE 22 patients	TRIFLUOPERAZINE 25 patients
Parkinsonism	10 (45%)	12 (48%)
Dizziness	15 (68%)	5 (20%)
Akathisia	2 (9%)	6 (24%)
Dyskinesia	0	4 (16%)
Drowsiness	5 (23%)	2 (8%)
Rash	3 (14%)	1 (4%)

SUMMARY

A group of 48 newly admitted female schizophrenic patients were treated as fol-

lows: Group A, 1000 mg. chlorpromazine daily; Group B, 40 mg. trifluoperazine daily; Group C, placebo; Group D received no phenotropic drug. Fifty percent in Groups A and B improved, 8% in Group C improved and none improved in Group D.

There seems to be a selective action for the 2 medications which either enhance or retard various behavioral functions necessary for resocialization and resulting in considerable differential effectiveness in 2 of the major diagnostic subclassifications.

ECT is still useful in those patients failing to improve on medication.

CONTROL STUDY OF THALIDOMIDE (KEVADON), A NEW HYPNOTIC AGENT

H. AZIMA, M.D., AND DOROTHY ARTHURS, R.N.¹

Since 1956 sporadic reports on thalidomide²(1-9) seem to have indicated that this substance, a non-barbiturate with the chemical formula of alpha (N-phthalimido) glutarimide, is a safe and adequate hypnotic-sedative substance. Of importance has been the observation that a high dosage of this drug does not put animals into a lethal sleep and in humans the possibility of suicide is negligible(8). The present study was undertaken to assess the hypnotic potency of thalidomide compared with phenobarbital and its capacity to produce prolonged sleep.

The study was divided into three parts: "2-night experiment," *i.e.*, patients receiving 1 night Kevadon, and 1 night phenobarbital placebo at random; "4-night experiment," *i.e.*, patient receiving alternatively, but at random, 2-night Kevadon and 2-night phenobarbital placebo. These two experiments were double blind with identical tablets of Kevadon 100 mg., and phenobarbital 100 mg., and finally the comparison of large doses of Kevadon with barbiturates in production of a state of prolonged sleep.

For the first 2 experiments, an observa-

tion was made of the number of hours of sleep, and in the morning inquiries were made to the patients as to how they had slept and on which nights they had slept better. The degree of sleep was rated as excellent (8 hours or more of sleep), moderate (5-7 hours), fair (3-5 hours), and poor (less than 3 hours). The sole purpose of the study being the assessment of hypnotic effect of Kevadon, the focus of observation was whether or not the insomnia was relieved regardless of the existing psychopathology. Fifty patients were studied, 20 males and 30 females, with an age range of 20-80 years. All patients received 100 mg. of Kevadon and 100 mg. of phenobarbital, except those on the prolonged sleep regime.

Twenty-seven patients suffering from a variety of neurotic disturbances with the common complaint of insomnia were studied in the "2-night experiment," and 23 patients in the "4-night experiment," receiving alternatively and at random Kevadon and phenobarbital once or twice, according to the experimental design. In addition, 3 patients were put on the regime of prolonged sleep treatment(10) and the effect was compared with that of barbiturates. The prolonged sleep with barbiturates was undertaken with 100 mg. seconal, 100 nembital, 100 phenobarbital and 100 chlor-

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² Kevadon is manufactured by the Wm. S. Merrell Company.

promazine, t.i.d. After an average period of 7 days, the barbiturates were replaced gradually by 200 mg. of Kevadon.

RESULTS

In 27 patients of 2-night experiment, 25 had an excellent rating and 2 fair, in comparison with 23 excellent, 1 moderate and 1 fair in phenobarbital group. In 23 patients of 4-night experiment, on the first trial with Kevadon, 19 had a rating of excellent, 2 moderate, 1 fair and 1 poor, and on the second trial 15 had a rating of excellent, 4 moderate and 4 fair. On the first trial with phenobarbital, 15 had a rating of excellent, 4 moderate and 4 fair and on the second trial, 13 had a rating of excellent, 6 moderate and 4 fair.

In 3 patients undergoing prolonged sleep, it was not possible to produce prolonged sleep, i.e., 18 to 22 hours of sleep per day, as was possible with barbiturates. In 1 patient, the dosage of Kevadon was increased to 2400 mg. per day, plus 300 mg. chlorpromazine, but the number of hours of sleep did not exceed 9 per day.

Comparison of the "hang over" effect showed that there was little difference in the 2-night experiments, but in the 4-night experiments, the patients, as a whole, preferred Kevadon to phenobarbital because of the absence of grogginess and fuzziness. However the difference was not marked behaviorally.

CONCLUSIONS

1. Kevadon, in short term hypnotic effect, is equal to, if not more adequate than, phenobarbital; 2. It seems—and this has to be confirmed with more detailed studies—that Kevadon has less after or "hang over" effect than phenobarbital; 3. It seems to be difficult to produce a prolonged state of sleep with Kevadon; 4. If further control trials substantiate these conclusions, Kevadon will become a valuable hypnotic substance.

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THE DECREASING USE OF ELECTROCONVULSIVE THERAPY

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PHILIP M. MARGOLIS, M.D.¹

Electroconvulsive therapy (ECT) has been widely recognized as the treatment of choice in most patients who are psychotically depressed. This includes the diagnostic categories of psychotic depressive reaction, involutional psychotic depression, and manic-depressive psychosis, depressed type. In comparing statistics for the years 1958 and 1960, we have found a

marked decrease in the frequency of our use of ECT.

The inpatient psychiatric service at the University of Chicago Clinics is a 20-bed unit emphasizing short-term, intensive treatment of all forms of psychiatric conditions. The average stay of the approximately 150 yearly admissions is 6 weeks. Emphasized in the treatment program are individual and group psychotherapy, milieu therapy, and the somatic therapies including drugs. When a patient is admitted, the usual pro-

¹ Respectively, Resident, Assistant Professor, and Associate Professor, Dept. of Psychiatry, University of Chicago School of Medicine, Chicago, Ill.

cedure involves a thorough diagnostic evaluation during the initial 7 to 14 days. During this time there is an opportunity to observe the severity of the patient's illness, his capacity for relatedness, and the availability of other psychologic strengths; then an intensive psychotherapeutic and milieu program is organized. Also, there is an opportunity for a trial on antidepressant medication. Limited or no response frequently results in the institution of ECT.

In 1958 the unit was oriented primarily around individual patient psychotherapy and/or the prescription of the somatic therapies. At this time it was rather rigidly divided into a 12-bed locked section and an 8-bed open section. During 1959 and 1960, the administrative leaders (Robert Daniels and Philip Margolis) embarked upon a staff development program emphasizing the

and 1960 in psychotic and neurotic depressions and reveals a marked decrease in the use of ECT in psychotic depressions in 1960. Use of ECT in neurotic depressions was rare in both years. An important factor in this change may have been the availability of more effective antidepressant medication. Table 2 demonstrates the increasing use of these drugs as well as the frequency with which they were followed or accompanied by ECT. It will be noted that there was also a decreased use of ECT in patients receiving no antidepressant medication.

The data and the authors' impressions suggest that the psychiatric ward described is now dealing with psychotic depressions more effectively through interpersonal channels than previously. The increasingly sensitive and flexible milieu is helpful in treating a variety of difficulties presented by the

TABLE 1
The Use of Electroconvulsive Therapy

	Total No.	1958 No. Receiving ECT	% Receiving ECT	Total No.	1960 No. Receiving ECT	% Receiving ECT
Psychotic Depressions	21	15	71%	15	5	33%
Neurotic Depressions	10	1	10%	22	1	4.5%

therapeutic transactions which occur among all members of the community. Among the changes instituted were ward meetings in which patients and staff participated, patient involvement in planning ward activities and policies, and an elected patient committee. Concomitant with this was the establishment of a predominantly unlocked or open ward.

Table 1 compares the use of ECT in 1958

depressed patient. Therefore, we are often finding it unnecessary to make use of somatic therapies. Staff and patients seem more willing and attach more value to tolerating and working with the dynamics of guilt and shame(1), which are central factors in the psychotic depressions. A review of each individual case record shows no appreciable difference in the length of hospital stay or the degree of therapeutic gain when pa-

TABLE 2
Psychotic Depressions Receiving Antidepressant Medication and Electroconvulsive Therapy

	Total No.	1958 No. Receiving ECT	% Receiving ECT	Total No.	1960 No. Receiving ECT	% Receiving ECT
Antidepressant Medication	2*	2	100%	10*	4	40%
No Antidepressant Medication	19	13	68%	5	1	20%

* Medication received was Deprol (meprobamate-400 mg., and benactyzine-1 mg.) 4 times daily for 15 days.

* Medication was primarily Tofranil (Imipramine hydrochloride) in daily doses of 100-200 mg. for 2-7 weeks. One patient was treated with Niamid (nialamid) 75 mgs. daily for 7 weeks.

tients receiving ECT are compared with those not receiving it.

A recent article by Perr(2) describes a new psychiatric hospital where no ECT was used during a trial period. Our experience generally supports his conclusions. However, ECT may continue to be the treatment of choice for certain psychotic depressions.

SUMMARY

The frequency of the use of ECT in

psychotic depressions in a small psychiatric unit in a general hospital is compared for 1958 and 1960. Decreased use is related to an improved therapeutic milieu and to judicious use of antidepressant medications.

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CASE REPORTS

ADDICTION TO PHENMETRAZINE HYDROCHLORIDE

HARRY F. DARLING, M.D.¹

Phenmetrazine HCl (Preludin—Geigy) has not been known as an addicting drug because, unlike amphetamines used as anorexics, it has a minimum of euphorient action. In one patient this drug was used by the writer adjunctively to psychotherapy for appetite control. As occurs with some patients on this drug, there was a mild euphorient action, which, for the patient at the time, was deemed good. There was a history of intermittent use of amphetamines and alcohol for a period of 10 years, but without chronic habituation and certainly without addiction, in this psychoneurotic female. For 7 months the patient took between 50 and 100 mg. daily, and then began taking larger amounts, up to 500 mg. daily. For 2 months she kept this fact from both psy-

chiatrist and family, and then confessed it. She will not now take less than 100 mg. a day and treatment has been started to try to get her off the drug completely. This may be difficult because she has access to supplies of it and will be prone to increase the dose.

Certain drugs are almost entirely non-addicting but can be in an occasional case, *e.g.*, in the case of methyl phenidate (Ritalin—Ciba) only 1 case of addiction has been reported in 6 years.² Phenmetrazine apparently belongs in this same category as to freedom from addiction, but this apparently unique case shows that any euphorient, no matter how slight the euphorient action, may be potentially addicting to a susceptible individual.

¹ Kannan Building, Lawrence, Mass.

² Rioux, B. : *Dis. Nerv. Syst.*, 21 : 6, 1960.

COMMENTS

CLINICAL PHYSIOLOGY IN A MENTAL HOSPITAL¹

The rapid growth of clinical physiology—the physiologic study of patients—in mental hospitals has raised several questions. One such question is: “Why bother to investigate the organic functions of patients with diseases called ‘mental’?” This question is easily answered. The fact that the most prominent manifestations of a disease are mental is clearly of no help in determining the etiology of that disease. For example, patients with hypothyroidism were kept in mental hospitals before the function of the thyroid gland was discovered around 1880. Even today some patients with Cushing’s syndrome or with pheochromocytomas are given psychiatric treatment for long periods before the real nature of their disease becomes evident. This is also true of elderly patients with hyperthyroidism. In addition, a majority of patients with hypoparathyroidism and a few with hyperparathyroidism are initially diagnosed as having severe neurosis, mild schizophrenia, or even manic-depressive psychosis. To this list might be added the misdiagnosed abnormal mental states produced by drug or chemical intoxications (the Mad Hatter is perhaps the most familiar example) or by depletion of such electrolytes as sodium, potassium, and magnesium. There is no need to labor the point, but it is obvious that all diseases of unknown etiology are appropriate subjects for physiologic study.

All diseases have physiologic, psychologic, and sociologic manifestations. There is no need to bring up the cliché about the five blind men and the elephant, nor is it necessary to attempt to decide here what is the optimal number of blind men to engage in the study of any particular disease. It is sufficient to say that all aspects of all diseases, including the so-called “mental diseases,” should be studied by whatever methods are available. This is essential for several reasons. In the first place, any methods that are

used determine what can be learned; it is impossible to separate data from the methods used to obtain them. (There are, therefore, no facts in medicine; this confuses many laymen who are unable to understand why what is right today may be wrong tomorrow.) Accordingly, the data that can be gained from any particular type of study are greatly limited in character if not in amount.

The limitation that results from the use of a single method is particularly undesirable in fields in which data are few—as is true of the field of mental disease. Any isolated observation has an infinite number of possible explanations. The successive addition of related observations obtained by different methods progressively limits the number of possible explanations. Although this does not establish the validity of any one explanation, it is helpful in that it narrows the field to be studied by ruling out certain possibilities. It is evident that the study of an unknown field should be carried out by means of widely different methods. This conclusion clearly applies to mental disease.

These facts raise another question: “How useful are interdisciplinary studies?” Although no categorical answer can be given to this question, certain considerations make it clear that such studies are of limited value. This limitation is imposed by the fact that when a single phenomenon is studied *simultaneously* by means of several different methods, the validity of the conclusion is determined by the least precise of the methods used; using methods of high precision and of low precision simultaneously does not increase the precision of the latter. Another drawback of interdisciplinary studies is the difficulty of planning an experiment that meets the requirements of all the different methods used: Compromises must be made, and consequently fewer valid findings may be yielded than would be obtained if all the studies had been made in separate experiments; this

¹ From a talk given at the McLean Hospital Sesquicentennial, Waverley, Mass., May 16, 1961.

is particularly true when little is known about the phenomenon under study.

Another question that suggests itself is: "How does the clinical physiologist decide what to study?" The answer to this question of course varies from man to man. Investigators have some knowledge of the condition to be studied, and accordingly certain directions underlie every investigator's plan of study. For example, most physicians other than psychiatrists conclude, after reading and hearing about schizophrenia, that the field is a morass of conflicting and overlapping hypotheses about etiology, about the nature of primary and secondary symptoms, and about the existence of fundamental and accessory processes. None of these hypotheses is supported by substantial data. All seem to be based on a small number of uncontrolled observations from which intuitive conclusions are derived. These intuitive conclusions are not good enough, since it is quite evident that thought by itself is the source of all error. Thought unsupported by observation can lead to no useful conclusion in medicine, and it creates spurious certainty where actual ignorance prevails.

Psychiatrists agree on the diagnosis of schizophrenia in about 85% of severe (as distinguished from chronic) cases. This is a good level of agreement; that is, it approximates the level of accuracy of clinical diagnosis of, for example, aortic regurgitation in general medicine. However, agreement on the diagnosis of early or mild degrees of schizophrenia is usually reported as about 50%; that is, physicians who attempt to make the diagnosis have a degree of success that is no better than pure chance. This statistic is discouraging, for several reasons. For example, we are told that the best therapeutic results are obtained when treatment is started early. This general principle clearly applies to most diseases encountered in general practice, but the fallacy inherent in the application of this statement to schizophrenia is obvious in view of the disagreement about which patients have mild or early schizophrenia. Considerations such as these require that clinical physiologists working on schizophrenia apply themselves to the general aim of learning about the physiology of schizophrenia in order to as-

certain whether physiologic data can (a) help to establish the fundamental nature of the disease and (b) help to distinguish primary and specific from secondary and nonspecific manifestations. (Undertaking such studies does not require that physiologists believe that schizophrenia is primarily a physiologic rather than a psychologic disorder.) Once the primary disorder that underlies schizophrenia is determined, regardless of which methods prove to be successful, all difficulties in early diagnosis and in evaluating the effects of treatment will vanish.

In the meantime, clinical physiologists are forced to omit study of early schizophrenia and to limit their studies in the disease to observations in patients with advanced states of the disorder. The need to study the advanced disease may introduce errors, since instead of studying schizophrenia itself physiologists may find themselves studying malnutrition or the consequences of incarceration in a mental hospital. Actually the possibility that any changes found in schizophrenic patients might be due to non-specific stress is readily ruled in or out by making studies on patients with other diseases such as fevers, cancer, vascular accidents, etc. However, regrettably few investigators have introduced this type of control into their studies.

Another source of error in studies on patients with advanced schizophrenia is the occurrence of physiologic cycles in such patients. These cycles appear to be of two main types: (a) those associated with changes in behavior and (b) those not so associated. The first type is seen in striking degree in psychotic women who have severe exacerbations of their psychotic manifestations beginning about one week before each menstrual period. Perhaps even more interesting are the women with post-partum psychoses who are entirely well except for a period of a week or 10 days of each month. A similar syndrome occurs in girls at puberty and has been named by German authors "*periodische Umdämmerungen in der Pubertät*"—"periodic twilight states in puberty." The recurrence of these confusional and hallucinated states at 4-week intervals in post-partum women and pubertal girls certainly suggests a disorder of

ovarian function. (It is interesting to note in passing that the word "estrus" comes from the Greek *oistros*, which means a biting insect or gadfly: hence anything that drives one mad.) However, any conclusion to the effect that the syndrome is ovarian in origin is negated by the fact that a similar syndrome occurs in boys at puberty.

The other type of physiologic cycle seen in schizophrenia is not associated with behavioral change. These cycles seem to comprise several varieties, such as the long cycles studied by Colbert and others and the 2-week cycles observed at the McLean Hospital. The latter are particularly prominent at times when the patient's condition is changing for either better or worse. The occurrence of these cycles requires that certain physiologic studies involve repeated measurements made over a period of weeks if any correlation between physiologic findings and clinical state is to be made.

In addition to all the scientific technical and procedural problems involved in the development of clinical physiology in a mental hospital, certain problems of still another sort should be considered: moral problems. All researchers who study sick people face these problems, but the problems take a different form in mental hospitals. Clinical physiologists in a general hospital are morally bound to limit their research—that is, their non-diagnostic studies—to experiments that do no harm and cause a minimum of discomfort. These studies must have as their aim the revelation of something about the patient's disease so that he, or others with the same disease, may benefit from improvements in diagnosis or treatment. One fact that is usually overlooked is that all patients are morally obligated to co-operate in such studies. This obligation derives from the fact that all patients, whether in ward or private beds, are supported during their hospital stays by funds raised in the community. This does not refer to charitable donations given voluntarily by individuals; it refers to huge sums given by the community to the voluntary hospitals in the form of remitted taxes. This money is taken from each member of the community regardless of his wishes. Accordingly, all patients in all non-profit hospitals have an obligation to all members

of the community—an obligation to co-operate in research (and, of course, teaching) so that other members of the community who have the same diseases or may have them in the future may benefit from improvements in diagnosis and treatment.

Patients in mental hospitals are under the same obligation. Moreover, the staffs of those mental hospitals that base their treatment on getting the patients to enter into normal relations with the community are morally obligated to persuade their patients to co-operate in research. However, this obligation on the part of hospital staffs is rarely acted upon or even acknowledged in mental hospitals. A related problem involves the interpretation of the psychotic patient's willingness to co-operate in research. The question may be raised whether a psychotic patient's acquiescence—or his refusal—is valid. It is customary, at least in some hospitals, to wait until the patient expresses acquiescence; however, it is difficult to establish the validity of this acquiescence. This problem is derived from the more general problem of how freely psychotic patients are to be permitted to control their own treatment—a problem as yet unsolved.

Another question must also be considered: whether attempts to explain to a psychotic patient the nature and purpose of the desired tests (such explanations starting days or weeks before the test is made) either (a) serve as a valid basis for a valid decision by the patient or (b) prevent him from making such a decision by confusing and frightening him so that an innocuous test becomes a disturbing experience to him.

Clinical research in general hospitals must be conducted so as not to interfere with treatment. The same principle should, of course, guide research on patients in mental hospitals. However, there are marked differences in opinion among psychiatrists about whether taking a sample of blood or having a patient void into a urinal interferes with treatment. Psychiatrists therefore often find themselves in a difficult position: On the one hand, they are morally obligated not to recommend anything that interferes with their treatment of patients; on the other hand, they are also morally obligated to persuade their patients to co-operate in research. These moral problems

severely test the skill and judgment of psychiatrists. It is probable that some psychiatrists—presumably only those of little experience—handle these problems badly.

Studies aimed at clarifying these issues and at formulating rules to aid the inexperienced are urgently needed. Considera-

tion should be given to resolving such difficulties as soon as possible, since clinical physiologic research in mental hospitals is rapidly increasing in volume and extent all over the country.

Mark D. Altschule, M.D.,
Waverley, Mass.

THE BELIEVING MIND

Of the things that are palpably not true, Socialism is one of the most satisfying to men of the romantic kidney . . . Years ago, when the single taxers were still making a noise in the land, I made a roster of the movement, setting down beside each name the varieties of balderdash that its owner believed in . . . one of the leading single tax agitators was also president of the League for Medical Freedom, a Verein of quacks organized to oppose vaccination. Another was a militant anti-vivisectionist, and proposed that the Johns Hopkins Medical School be closed by the police . . . a third was a table tapper, and a fourth got messages from the ghosts of Martin Luther, Lucy Stone, and Sitting Bull. A fifth deserted his wife for a cutie with pansy eyes, and lost, in consequence, his job as a college professor. A sixth, believing he was Millard Fillmore, was put away by his family . . .

Some look to spiritualism, some to chiropractic, some to genesis. Some took to prohibition, the single tax, fasting, and the electronic vibrations of Dr. Abrams. But not one, so far as I can make out, took to sense.

—H. L. MENCKEN (1926)

CORRESPONDENCE

CHILD CARE

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : The article "Culture and Mental Illness," by Ashley Montagu, Ph.D., which appeared in the July, 1961 issue of *The American Journal of Psychiatry* makes the assertion that "Contact with the mother's body, the baby's visual experience of that body, the support she gives, the breastfeeding that should continue for at least 9 months, all these are indispensably necessary conditions for the well being and healthy development of the infant." This sweeping generalization, for which Dr. Montagu adduces no supporting evidence, can only serve to create anxiety and guilt in the innumerable mothers who do not breastfeed their infants for 9 months. This is especially unfortunate since the available evidence casts doubt on the validity of this generalization. The March, 1961 issue of *The American Journal of Psychiatry* carries an article entitled "Individuality in Responses of Children to Similar Environmental Situations" in which data pertinent to this question from a long-term ongoing longitudinal study of child behavioral development are reported by myself, Birch, Chess and Robbins. About 40% of the mothers in a total group of 110 children being followed breastfed their children for 2-5 months. No disturbances in behavior resulting from shift to the bottle, and no differences between these children and the others bottle-fed from birth have been noted. The data included details of functioning in the various areas of daily living before, during and subsequent to the shift from breast to bottle. In general, our study has shown that with all the issues involved

in the process of socialization, such as weaning, toilet training and the birth of a younger sibling, that there were wide variations in the responses of different children, based on the primary characteristics of reactivity of the individual child and the specific environmental situation, and that no generalizations were possible that were valid for all the children. These findings are consistent with the several reviews of the professional literature by Orlansky (Psychol. Bull., 46 : 1, 1949), Bruch (Am. J. Orthopsychiat., 24 : 723, 1954) and Stevenson (Am. J. Psychiat., 114 : 152, 1957) which have concluded that the available published data do not confirm the hypothesis that the pattern of child care practiced by the parent in the child's early life has any one-to-one relationship to later personality development.

Our experience with the mothers in our study, which is consistent with the observations of Bruch (*op. cit.*) and others, is that the present day American mother is very vulnerable to any indication that her child care practices deviate from the standards enunciated by the presumed experts in the field. A concern for the cultural influences on mental health should make all of us working in this field careful not to enunciate any strictures against mothers (and fathers) on the basis of prior hypotheses or clinical impressions, unless and until they are buttressed by substantial objective evidence.

Alexander Thomas, M.D.,
Associate Professor Psychiatry,
New York University School
of Medicine, N. Y.

REPLY TO THE FOREGOING

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : Dr. Thomas, in his much appreciated letter, states that I adduce no sup-

porting evidence for the statement he quotes from my article "Culture and Mental Illness." The evidence is, in fact, presented at considerable length in my book *The Di-*

rection of Human Development (Harper & Bros., New York, 1955), to which I gave the reference. Everything of relevance I have read since the publication of that book has only served to strengthen the view to which Dr. Thomas takes exception. With all respect may I say that a few apparent negative findings in this area are quite insufficient even to shake the massive amount of material which forms the foundation for the generalization which Dr. Thomas calls in question.

What we now need are more longitudinal studies, all the more so since I fully agree with Dr. Thomas that individual variability is such that generalizations of the sort to which he objects will always be found to be inapplicable to some individuals, but this is precisely why they are *generalizations* and not *universal* statements. Perhaps the study of a little elementary logic is also indicated.

Ashley Montagu, Ph.D.,
Princeton, N. J.

MELLARIL : EJACULATION DISORDERS

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR: In regard to ejaculation disorders during Mellaril treatment, 4 cases of which are described in *The American Journal of Psychiatry* by Dr. Freyhan, Dr. Green and Dr. Heller, I'd like to report a similar one.

Last month a well-developed, well-nourished 30-year-old colored American male was referred to me because of severe anxiety. The patient was started on 200 mg. Mellaril h.s., and on psychotherapy 3 times a week. On his fourth visit, he reported having had intercourse the previous night without ejaculation, also without climax.

A follow-up could not be done because of patient's decision to return to the United States to be hospitalized.

Having used Mellaril for over 2 years in a large number of patients and having never encountered this complaint, I feel that a deeper study in regard to this side effect should be done and would like to invite reports from different psychiatrists who use Mellaril.

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Ave. Ejercito Nacional 258-1,
Mexico 5, D.F.,
Mexico.

CORE OF KNOWLEDGE

The best part of our knowledge is that which teaches us where knowledge leaves off and ignorance begins. Nothing more clearly separates a vulgar from a superior mind, than the confusion in the first between the little that it truly knows, on the one hand, and what it half knows and what it thinks it knows, on the other.

—OLIVER WENDELL HOLMES

NEWS AND NOTES

THE AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY SUBMITS THE FOLLOWING NOTICE.—On October 8, 1961, the following regulation was passed:

After June 30, 1962, all applicants for eligibility for examination in psychiatry and/or neurology by the American Board of Psychiatry and Neurology, Inc., must present three years of full time approved residency training credit in order to fulfill the training requirements. After this date, the regulation permitting ante-1934 graduates to substitute ten years of full time experience in lieu of formal residency training credit, will be terminated.

The following examinations will be held by the American Board of Psychiatry and Neurology, Inc.:

New York, New York—December 9, 11, 12, 1961.

San Francisco, California—March 31, April 2, 3, 1962.

Detroit, Michigan—October 13, 15, 16, 1962.

THE AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY, INC.—The following are new Diplomates who successfully completed the Board examination given in October, 1961:

PSYCHIATRY

Atoynatan, Tanash H., M.D., Hartford, Conn.
Backrass, Erwin, M.D., Howard, R. I.
Bandle, Donald Francis, M.D., St. Louis, Mo.
Basch, Michael Franz, M.D., Chicago, Ill.
Bell, Exter Frank, Jr., M.D., Houston, Tex.
Benham, William D., M.D., Falls Church, Va.
Brady, John Paul, M.D., Indianapolis, Ind.
Byron, Harold J., M.D., Philadelphia, Pa.
Cattell, Richard Brenneman, M.D., Denver, Col.
Charny, E. Joseph, M.D., Pittsburgh, Pa.
Chediak, Charles, M.D., Topeka, Kan.
Clifford, Joseph C., M.D., West Brentwood, N. Y.
Cutri, Joseph John, M.D., Winston-Salem, N. C.
Davidson, Edwin Maurice, M.D., Newton Hlds., Mass.
Davis, Carl Lewis, M.D., New Orleans, La.
Davis, Martin David, M.D., New York, N. Y.
Del Giudice, Amore, M.D., Binghamton, N. Y.
de St. Felix, Edmond, M.D., Larned, Kan.
Dietze, Hans J., M.D., Columbus, O.
Dimitri, Konstantin D., M.D., Galesburg, Ill.
Draper, Edgar, M.D., Chicago, Ill.
Eichler, Myron Franklin, M.D., Baltimore, Md.
Elmore, Carroll M., M.D., Topeka, Kan.
Fineman, Abraham D., M.D., Brookline, Mass.
Fleetwood, Wallace W., M.D., New Orleans, La.
Flynn, Thomas T., M.D., Clayton, Mo.
Fournier, Ferdinand E., M.D., Northville, Mich.
Gaarder, Kenneth R., M.D., Rockville, Md.

Garner, Wilfrid J., M.D., Halstead, Kan.
Goldings, Herbert Jeremy, M.D., Newton Center, Mass.
Graber, Hildegard Kellner, M.D., Newport, Minn.
Greben, Stanley Edward, M.D., Toronto, Canada
Greenson, William S., M.D., New York, N. Y.
Grosenbaugh, Clare Henry, M.D., Grand Rapids, Mich.
Hammond, Jerrold E., M.D., Charlottesville, Va.
Hansen, Howard, M.D., Los Angeles, Calif.
Harris, Sherwin J., M.D., Great Neck, N. Y.
Hayes, Ray H., M.D., Lexington, Ky.
Hellinger, Bernard S., M.D., Beverly Hills, Calif.
Hyman, Maurice, M.D., Nashville, Tenn.
Jacobsohn, Ulrich B., M.D., Camarillo, Calif.
Jones, Arthur Lambert, M.D., F.R.C.P. (C), Toronto, Canada
Jurgensen, Warren P., M.D., Fort Worth, Tex.
Kafka, John S., M.D., Bethesda, Md.
Keith, Robert M., M.D., Topeka, Kan.
Kendrick, Curtis, M.D., New York, N. Y.
Kennedy, Lawrence L., M.D., Topeka, Kan.
Klassen, Otto Dyck, M.D., Wichita, Kan.
Knox, C. Frank, Jr., M.D., Tulsa, Okla.
Kosieradzki, Henryk, M.D., Marshalltown, Iowa
Kritzer, Herbert, M.D., Washington, D. C.
Lambert, Henry L., M.D., Little Rock, Ark.
Lammers, Ann Hyacinth, M.D., Owings Mills, Md.
Lee, Gary Melvin, M.D., Lawrence, Kan.
Lile, Gwyn Henry, M.D., Chicago, Ill.
Maas, James Weldon, M.D., Bethesda, Md.
Macfarlane, Jephtha Robert, M.D., Long Island, N. Y.
MacIver, John, M.D., Pittsburgh, Pa.
Magier, Nina G., M.D., Salem, Va.
Marchesi, John C., M.D., San Jose, Calif.
Mehlinger, Kermit T., M.D., Chicago, Ill.
Miller, Paul R., M.D., Chicago, Ill.
Millman, Morton M., M.D., Chicago, Ill.
Minui, Mordeza, M.D., Eloise, Mich.
Mooney, William E., M.D., Pittsburgh, Pa.
Moore, Robert Francis, M.D., Randolph, Mass.
Morse, William R., Jr., M.D., Columbus, O.
Murillo, Luis G., M.D., Greenwich, Conn.
New, Bertrand L., M.D., New York, N. Y.
Pavkovic, Anthony, M.D., Chicago, Ill.
Pawlowski, Emil J., M.D., Wakefield, Mass.
Perry, Gerald F., M.D., Roslyn, N. Y.
Phillips, George McK., M.D., Crownsville, Md.
Pierce, Hamilton Campbell, M.D., Great Falls, Mont.
Platkin, Mauris Milton, M.D., Oxon Hill, Md.
Preece, Howard G., M.D., Walnut Creek, Calif.
Prosen, Harry, M.D., M.R.C.P., Winnipeg, Canada
Rapport, Samuel, M.D., Norwalk, Calif.
Raskin, Milton, M.D., Worcester, Mass.
Reid, F. Theodore, Jr., M.D., Chicago, Ill.
Rinsley, Donald Brendan, M.D., Topeka, Kan.
Robinson, William B., M.D., Tuscaloosa, Ala.
Roches, Wolfgang, M.D., Waukegan, Ill.
Schiff, Daniel, M.D., Chicago, Ill.
Schorer, Calvin E., M.D., Detroit, Mich.
Schreiber, Arthur Jay, M.D., Hartford, Conn.
Smith, Charles Edward, Jr., M.D., Oklahoma City, Okla.
Snow, Harold L., M.D., Los Angeles, Calif.
Statman, Jerome Maurice, M.D., Topeka, Kan.
Steele, Robert G., M.D., Sarasota, Fla.
Stevens, Stephen E., M.D., Woodland Hills, Calif.
Stiller, Rochus, M.D., Elgin, Ill.
Strand, Glenn T., Jr., M.D., Seattle, Wash.
Swenson, Ernest O., M.D., New Orleans, La.
Telangator, Richard H., M.D., Chicago, Ill.
Tunkunas, Petras, M.D., Chicago, Ill.
Van Daele, Alexander L., M.D., New York, N. Y.
Van der Veer, J. R., M.D., Toledo, O.
Van Dooren, Hugo, M.D., Tacoma, Wash.
Weisler, Jacob M., M.D., New Orleans, La.
Whitcomb, David Twining, M.D., Washington, D.C.
Young, Gregory G., M.D., Miami, Fla.

Kennedy, Ralph Cranford, M.D., Talmage, Calif.
(certified in Supplementary Psychiatry)

NEUROLOGY

Anderson, Wilmer M., M.D., Philadelphia, Pa.
 Barrows, Howard Strong, M.D., Arcadia, Calif.
 Block, Jerome M., M.D., New York, N. Y.
 Daly, Richard F., M.D., Memphis, Tenn.
 Egan, Robert William, M.D., Brookline, Mass.
 Green, David, M.B., New York, N. Y.
 Jaros, Rose Mary, M.D., Kensington, Calif.
 Mileris, Jonas Valdemaras, M.D., Aurora, Ill.
 Scott, John Sewell, M.B., Orlando, Fla.
 Swanson, August G., M.D., Seattle, Wash.
 Turrell, Richard C., M.D., Louisville, Ky.
 Weiss, Stuart, M.D., St. Louis, Mo.

NEW FACILITIES, NEW YORK STATE, FOR MENTALLY RETARDED.—Governor Rockefeller has announced completion of plans for a proposed \$17 million construction program for the School of Mentally Retarded at Mt. McGregor, in Saratoga County. The new buildings at Wilton will provide room for 1180 patients. The site is adequate for expansion, and eventually 2800 patients could be taken care of. The existing buildings, currently housing 130 patients, are being renovated to accommodate an additional 215 patients.

The plans include a schoolbuilding with residence cottages for school children, a medical surgical hospital building, buildings for the severely retarded, training and rehabilitation facilities, as well as recreational areas and a centralized playground for major institutional programs.

DR. WALTER HAMBURGER.—The untimely death of Dr. Walter Wile Hamburger occurred September 21, 1961. A graduate of the University of Chicago, he pursued medical training at the Peter Bent Brigham Hospital, Boston, and the Cincinnati General Hospital. He then served in the United States Army Medical Corps for over 3½ years including duty in the CBI Theater. On his return from the service in 1948, he undertook training in clinical psychiatry and medicine at the Strong Memorial Hospital, University of Rochester, and later trained at the Institute for Psychoanalysis, Chicago. He served on the faculty of the Medical School of the University of Rochester from 1948 until his death, at which time he held the rank of associate professor (full time). He was a devoted teacher, clinician, and researcher, contributing much to the understanding of obesity. His interests were wide

and always involved a comprehensive view of medical as well as emotional components of illness. He was active in many community affairs as well as national organizations, including the American Psychiatric Association, the American Psychoanalytic Society, American Psychosomatic Society and GAP. He was a warm, humble, thoughtful man, beloved and admired by many and who will be sorely missed by family, friends, and colleagues.

SECOND CANADIAN INSTITUTE ON MENTAL HEALTH SERVICES.—This Institute, sponsored by the Canadian Psychiatric Association, is to be held at the Chateau Laurier, Ottawa, Jan. 15-18, 1962.

The panel on the first day, Canadian Mental Health Association Report on Mental Health Services in Canada, comprises: History and Purpose—Dr. J. D. Griffin; Implications for Mental Hospitals—Dr. C. A. Roberts; Implications for Community Mental Services—Dr. B. H. McNeel; Implications for Private Practitioners—Dr. R. J. Weil; and Implications for Teaching—Dr. J. S. Tyhurst. Other major topics are Nursing services; Occupational therapy; Integration of therapeutic services within the community; Financing, community organization, local administration, etc.; and Psychotherapy.

Further information may be obtained from the Institute of Mental Health Services, Canadian Psychiatric Association, Suite 103, 225 Lisgar St., Ottawa 4, Ontario.

DR. HENRY LLOYD.—The death of Dr. Henry William Lloyd, owner and operator of the West Hill Sanitarium in Riverdale, New York, occurred at his home Oct. 7, 1961. His age was 83.

Dr. Lloyd, a native of Massachusetts, was graduated in Medicine from the University of Pennsylvania. He served as a captain in World War I. During the past three decades he had operated the West Hill Sanitarium as a private psychiatric hospital. Much earlier he had acquired the Audubon Sanitarium in upper Manhattan, a former general hospital which he converted to a private institution.

Dr. Lloyd had been a member of the American Psychiatric Association since 1937. He was a member of the New York Academy of Medicine. He was a Free Mason.

JOURNAL OF ABNORMAL AND SOCIAL PSYCHOLOGY.—Beginning with the January 1962 issue, this Journal will become a monthly rather than a bimonthly journal. Each of the annual two volumes, therefore, will contain 6 issues rather than 3 as heretofore. The 1962 annual subscription rate of \$20.00 (foreign \$20.50) will not be changed.

For further information write to the American Psychological Association, 1333 Sixteenth Street, N. W., Washington 6, D. C.

DR. DENBER HONORED.—Herman C. B. Denber, M.D., Director of Psychiatric Research at Manhattan State Hospital, New York, and Associate Clinical Professor of Psychiatry at the New York Medical College, was recently honored by the French government. At a ceremony held in the Ministry of Health in Paris, he was decorated and made a *Chevalier de l'Ordre de la Santé*, in recognition of his efforts towards increasing scientific and cultural exchanges between French and American psychiatrists.

TENTH NATIONAL CLOSED-CIRCUIT TELECAST FOR PHYSICIANS.—This telecast will originate from the Albert Einstein College of Medicine in New York City on Dec. 13, 1961 (9 p.m. E.S.T.) and will be transmitted to cities listed below.

Patients with lesions of the brain will be presented by a distinguished panel of clinicians, including 3 guests from other countries—Dr. Wilder Penfield and Dr. Donald L. McRae from Montreal, and Dr. MacDonald Critchley from London, Eng.—and American specialists in several cities.

This Grand Rounds telecast may be seen at the following locations (times given are local times) :

Boston—Pilgrim Theatre, 658 Washington St., at 9 p.m.

Chicago—Uptown Theatre, 4814 Broadway, at 8 p.m.

Cleveland—Academy of Medicine, Library Auditorium, at 9 p.m.

Kalamazoo—The Upjohn Co., Portage Plant Cafeteria, at 9 p.m.

Los Angeles—Wiltern Theatre, 3784 Wilshire Blvd., at 9 p.m.

Minneapolis—Pick-Nicollet Hotel, International Ballroom, at 8 p.m.

N. Y. City Area :

Manhattan—Town Hall, 123 West 43rd St., at 9 p.m.

Bronx—Albert Einstein College of Medicine, Robbins Auditorium, Eastchester Rd. and Morris Park Ave., at 9 p.m.

Philadelphia—69th Street Theatre, Garrett Rd. and Westchester Pike, at 9 p.m.

Pittsburgh—Webster Hall Hotel, Georgian and Terrace Rms., at 9 p.m.

San Francisco—Veterans Bldg. War Memorial, Auditorium, at 9 p.m.

Syracuse—Onondaga County War Memorial, Exhibit Hall, at 9 p.m.

Washington, D. C.—Medical Society of D. C., Auditorium, at 9 p.m.

INTERNATIONAL UNION FOR HEALTH EDUCATION.—The 5th International Conference of this Union is to be held from June 30 to July 7, 1962 in Philadelphia, Pa. The broad theme of the scientific program is "Man in His Environment."

Applications for advance registration should be sent to : Conference Secretariat, 1962 International Conference on Health and Health Education, 800 Second Ave., New York 17, N. Y., and should be received by April 1, 1962. Registration fee is \$22, for individual members of a participant's family accompanying him \$11, and for students in professional schools \$15.

DR. CONN RECEIVES HYPNOSIS AWARD.—Dr. Jacob H. Conn of Baltimore, Md. was presented with the 1961 Dr. Bernard B. Ragsinsky Award at the annual meeting of the Society for Clinical and Experimental Hypnosis in Cleveland, O. He is the second physician to receive this award, the first recipient having been Dr. Lewis R. Wolberg of New York.

Dr. Conn was President of the National Society for Clinical and Experimental Hypnosis from 1959 to 1961. He is assistant professor of psychiatry at the Johns Hopkins University School of Medicine.

WITHDRAWAL OF THE DRUG FLEXIN.—The McNeil Laboratories, Inc., Fort Washington, Pa., reports that on the basis of clinical observations submitted to the company by physicians suggesting that Flexin may be associated with the development of hepatitis in an occasional hypersensitive patient, the company is withdrawing from the market Flexin, Flexilon, Flexilon-HC, and Triurate. Physicians having samples or supplies of Flexin or any of the drugs named are requested to destroy them.

ASSOCIATION OF FILIPINO PSYCHIATRISTS.—In the Philippines the Group for the Advancement of Psychiatry was organized Sept. 5, 1961 by 14 psychiatrists who having trained in hospitals in the United States have recently returned to Manila.

The Chairman is Virgilio G. Santiago who is the first Filipino diplomate of the American Board of Psychiatry and Neurology.

MENTAL HEALTH RESEARCH GRANTS.—Dr. Luther L. Terry, Surgeon General of the U. S. Public Health Service, has announced the award of 48 grants, totaling \$14,575,628, to help build and equip additional health research facilities in 40 institutions in 23 states. These grants which are awarded on a matching basis, are designed primarily to promote medical research.

The following grants were made for mental health research: \$172,516 to Washington University School of Medicine, St. Louis, Mo. for an addition to Renard Hospital for Psychiatric Research, and equipment; \$512,500 to Pacific State Hospital, Pomona, Calif. for a mental health research building; and \$72,580 to University of Colorado Medical School, Denver, Colo. for new building and equipment for psychiatric research.

FIRST INTER-AMERICAN CONFERENCE ON CONGENITAL DEFECTS.—This conference will be held January 22-24, 1962, at the Statler Hotel, Los Angeles, Calif., sponsored by The National Foundation and the University of Southern California.

The conference will deal with: 1. Genetic defects (hemoglobin, galactosemia, gargoylism, amino acid defects), 2. Struc-

tural defects (chromosomal abnormalities with particular reference to sex, mongolism, central nervous system defects, genito-urinary defects, eye defects as an expression of congenital defects).

The range of topics in this important conference is very wide and will be dealt with by recognized authorities.

The proceedings, including all scientific papers, will be published.

Inquiries should be addressed to the Secretariat of the First Inter-American Conference on Congenital Defects, University of Southern California, University Park, Los Angeles 7, Calif.

SECOND CANADIAN INSTITUTE ON MENTAL HEALTH.—This Institute is to be held Jan. 15-18, 1962, at the Chateau Laurier in Ottawa. The Academic Lecture will be delivered on the first day of the Institute by Dr. Jack R. Ewalt, Professor of Psychiatry at Harvard Medical School. Dr. Ewalt will discuss both the recommendations of the Joint Commission on Mental Health and those of the reports of the Canadian Mental Health Association.

Principal speakers during the sessions of the Institute will be: Dr. J. D. Griffin, Director of the Canadian Mental Health Association; Dr. C. A. Roberts, Director of the Verdun Protestant Hospital, Montreal; Dr. B. H. McNeel, Chairman of the Mental Health Division, Ontario Dept. of Health; Dr. R. J. Weil, Assistant Professor of Psychiatry, Dalhousie University; Dr. J. S. Tyhurst, Professor and Chairman of the Department of Psychiatry, University of British Columbia.

At the banquet on the evening of Jan. 15, Dr. Jean Saucier, President of the Canadian Psychiatric Association, will preside, and Dr. Robert H. Felix, Director of the (U. S.) National Institute of Mental Health, will be the guest speaker.

CORRECTION.—The last quotation at the bottom of p. 470 in the November issue of the *Journal* was treated unkindly by the printer.

The title word "Genes" was decapitated, and the source of the quotation was edged off the page.

The source was Ecclesiastes 7:13.

BOOK REVIEWS

CRIME IN AMERICA. Edited by Herbert A. Bloch. (New York: Philosophical Library, 1961, pp. 355. \$6.00.)

Crime, in spawning its assortment of social problems, has invoked as well a wide range of remedial forces. On the one hand, public action—governmental, judicial and correctional—maintains its attempt to control and combat the tide of offense. On the other hand, an array of professional and lay elements—medical, academic, legal and community—pursues the endeavor to clarify the dynamic principles of criminal behavior and thereby to give direction and meaning to the crusade for better adaptation to, what Dr. Bloch calls, "the painfully acquired inhibitions of civilization." How greatly the polymath composition of this endeavor has proliferated in the last few decades is illustrated by the nature of this book. Of the 24 contributors, 12 have university or other academic connections, 5 are medical practitioners, 4 are police connected, 3 represent public organizations, 1 is an Army general and 1 a Senator.

Most of the 23 papers constituting the book were read at the annual meetings of the American Society of Criminology. They, therefore reflect a diversity of viewpoint that Dr. Bloch, Professor of Sociology and Anthropology at Brooklyn College, cites as characteristic of the organization; incidentally, he notes that the reconciling of these divergencies is an organizational aspiration not yet achieved. However, this heterogeneous quality adds the spice of controversy to the symposium. He classifies as frankly controversial such topics as psychopathology, the Glueck delinquency prediction scale, the role of hereditary factors and social viewpoints on gambling. A further controversial item is Dr. Jack Kevorkian's proposal that capital punishment be adapted to purposes of physiological research by using condemned criminals as laboratory subjects.

Among the especially useful items in the book are 3 papers recapitulating the issue of the McNaghten Rule and insanity. These are contributed by Dr. Frederick J. Hacker and Marcel Frym of Beverly Hills, Dr. Philip A. Roche and Dr. Dean C. Tasher. There is also some incisive exposition and comment in Dr. Canio Louis Zarrili's critical analysis of the Royal Commission Report on Homosexuality and Prostitution, a document worthy of more attention than it has generally received.

Some constructively critical plain talk about "Correction's Sacred Cows" is offered by Howard B. Gill, with this as his central theme: The correctional process is not made up of 5 or 6 separate constellations—prevention, police, courts, prisons, probation and parole—each whirling in space in its own orbit, and occasionally colliding one with another. It is a single process and demands an integrated and coordinated program under the unified command of a professional leader of the highest caliber on at least 3 levels—federal, state and city. Because of the lack of such coordination and such high professional leadership, we may be losing the war on crime in the United States.

Dr. Bloch, as moderator, strikes a sobering realistic note on the position and prospects of diffused anticrime endeavor. He sums up: "Although it may be true that there is considerable agreement upon the use of scientific method, especially when informed with the conviction of humanitarian purpose, there are nevertheless serious controversies in the field of criminology. . . . Such conflicts can be bitter, frequently leading to confusion of understanding and purpose, and which, perhaps, can only be reconciled in the long run by the emergence of a new philosophy within the entire field of corrections. Such a philosophy is beginning to take shape and is based upon the premise that most, if not all, offenders can be rehabilitated and that the techniques for such reclamation lie only partially in compulsive detention and punishment."

RALPH S. BANAY, M.D.,
New York 21, N. Y.

SOMATIC TREATMENTS IN PSYCHIATRY. By Lothar B. Kalinowsky, M.D., and Paul H. Hoch, M.D., in collaboration with Brenda Grant, M.D., D.P.M. (New York and London: Grune & Stratton, 1961, pp. 413 (incl. bibliog. pp. 54 and index pp. 13), \$9.75.)

This book may be regarded as the standard presentation of treatment in psychiatry today. It covers fully all the procedures of recent decades and evaluates carefully the usefulness of each one. The text is particularly valuable in that there is full coverage of the foreign literature as well as the American, with the sound background of the wide experience of the authors.

A characteristically American tendency has been to drop an older treatment procedure when a new one is brought forward. The authors maintain a salutary balance in this respect, indicating that the earlier somatic therapies served, and still serve, their purpose. "None of the previous somatic treatments has become obsolete even though some of their indications have changed." Even psychosurgery, which in recent years has lost heavily in prestige, is found to be "an extremely useful tool in selected, otherwise intractable cases."

After a concise historical review (5 pp.) of the new therapies, the book begins with pharmacotherapy because this is the method "tried first in the vast majority of psychiatric patients." It was Jean Delay, professor of psychiatry, in the University of Paris, who introduced modern psychopharmacology with the drug chlorpromazine; and his classification of the "tranquilizers" and the innumerable "neuroleptic" and other compounds that daily issue from the pharmaceutical houses is generally followed in this book. The authors indicate the steps rigidly necessary in evaluating a new drug: first, recognition of potentially useful biological effect; second, determination of relative safety by trial with animals; third, establishment of action, therapeutic effect, and safety in human subjects (*n.b.* side-effects).

It is in schizophrenic reactions that the neuroleptic drugs have been most widely used, but they have been resorted to in virtually all disturbed mental states. Indications and side-effects are thoroughly covered; likewise in combination with other drugs or treatment methods such as ECT. Extensive clinical investigations and their results are fully reported. This section of the book on pharmacotherapy occupies 118 pages.

Next come the various convulsive therapies (83 pp.), insulin coma treatment (83 pp.), psychosurgery (36 pp.), various pharmacological and other methods (23 pp.). The final section (16 pp.) is devoted to theoretical remarks.

The reviewer has taken the liberty to italicize portions of the first paragraph of this last section of the book: "*Psychiatry differs from other fields of medicine in a deplorable lack of facts on which all psychiatrists can agree. There is no generally accepted etiology of most mental diseases, and the entire foundation of the specialty of psychiatry is based on theories believed by some and opposed by others . . . all psychiatric treatments were found empirically, and only later theories were developed to explain their action. . . . None of these attempts was satisfactory.*"

The authors summarize and discuss in these illuminating pages the various theories that have been proposed in connection with the several treatment procedures described in the text: "Practically no study is available that proves the necessity of psychotherapy by comparing the results in patients who received psychotherapy with those who did not." And they continue: "Empirically, the organic treatment produced results. [They] rapidly accumulated considerable statistical material which could be analyzed and criticized. By comparison, the psychotherapeutic approaches have practically no statistics or the number of patients evaluated and reported is very small." And they warn: "The indiscriminate use of the somatic treatments, particularly electric shock therapy, must be deplored. However, indiscriminate use of psychotherapy also occurs." They express the opinion that "markedly depressed patients," with whom good rapport is impossible, "often become worse under such treatment but usually very quickly recover with electroshock treatments."

The situation as it is today is tersely summed up in the following sentence with which these two eminent authors close their book: "At present, we can say only that we are treating empirically disorders whose etiology is unknown, with methods whose action is also shrouded in mystery."

Happily tireless investigation continues—
C. B. F.

THE DEATH OF ADAM. By John C. Greene.
(Ames: The Iowa State University Press,
1959, pp. 388. \$4.95.)

This is a most admirably readable and delightfully illustrated account of the rise and development of the idea of "Evolution" and its impact on Western thought. The subject has been often dealt with, but never in a more attractive manner, the attraction being due principally to the manner in which Professor Greene, who teaches the history of science at Iowa State University, has combined the qualities of scholarship, good judgment, and a felicitous style.

Beginning with an exposition of the relevant Newtonian concepts of the 17th century concerning the nature of Nature and Nature's God, the author, step by step, takes us through the labyrinth of intellectual changes which gradually prepared the way for the Darwinian revolution. This is a fascinating excursion, and I have no hesitation in recommending this book beyond all others as the best book of its kind. It is, indeed, a remarkable performance. And

what, from the reader's point of view, is quite as remarkable is the extraordinarily low price at which the book is published. A sensible man would not only enjoy reading the book, but laying in a store of copies, as gifts to be thoughtfully bestowed upon the deserving.

Readers of this Journal will particularly value the exposition of the development of our contemporary conception of man's nature, culminating, of course, in Freud, and perhaps to be rescued from its errors by the New Instrumentalist.

Altogether this is a memorable book.

ASHLEY MONTAGU, Ph.D.,
Princeton, N. J.

ESSENTIALS OF NEUROLOGY. By John N. Walton, M.D., M.R.C.P. (Montreal: J. B. Lippincott Co., 1961, pp. 422. \$6.75.)

This is a small handbook written by an author-investigator familiar to most neurologists as one who can speak and write well. This volume lives up to the high standard already set by the author. The book is clearly and concisely written and one is amazed to find so much in one small volume. The author has successfully interwoven concepts relating to disturbed physiology in structural lesions, chemically determined disorders and the maladaptations due to various genetic and environmental factors. He points out again and again that it is the whole person and his family who need to be studied in the clinical setting. History taking, physical examinations, special techniques of investigation are neatly portrayed and followed by chapters on interpretation of symptoms and signs. A brief description, but containing the essential points, is given of neurologic diseases including primary and secondary conditions. The book is written for medical students and post-graduate students. It will not be very useful to the post-graduate student in neurology except as a starting point in his clinical work. It can be recommended to psychiatrists and internists as a quick reference for purposes of preparing for specialty examinations. The reviewer regards the book as one of the better, if not the best, books in its class.

ALLAN A. BAILEY, M.D.,
Saskatoon, Sask., Can.

TOPICAL PROBLEMS OF PSYCHOTHERAPY. Vol. I. Edited by *Berthold Stokvis*. (Basle, Switzerland: S. Karger, 1959, pp. 70. Sfrs. 11.70) Vol. II. Edited by *Wilfred C. Hulse*. (Same publisher, 1960, pp. 197. Sfrs. 27.—)

The editor of the multi-lingual journal, *Acta Psychotherapeutica*, started in 1959 to publish

small monographs on timely "problems," encountered by psychotherapists all over the world. The first volume is devoted to historical aspects with contributors from Holland, England, U.S.A., France, and Germany. The second volume, almost three times as long as the first deals with the "Sources of Conflict in Contemporary Group Psychotherapy," and is readily accessible to American readers as it is published entirely in English under the sponsorship of the Eastern Group Psychotherapy Society and the Postgraduate Center for Psychotherapy in New York. Its contents are among the most valuable this reviewer has encountered in the field of group psychotherapy. There are individual papers, such as "The Application of Group Concepts to the Treatment of the Individual in the Group" by S. H. Foulkes (London), as well as informal panel discussions. Both to the beginning as well as the experienced practitioner, the book can be highly recommended!

HANS A. ILLING, Ph.D.,
Los Angeles, Calif.

PARKINSON'S DISEASE ITS MEANING AND MANAGEMENT. By *Lewis J. Doshay*, M.D. (Philadelphia: J. B. Lippincott Co., 1960, pp. 224. \$1.45.)

This publication achieves quite well the author's purpose of fulfilling the need for a popular book on this subject. A preliminary chapter describing the nature of the disease properly reassures patients regarding the lack of many dreaded features like pain, mental impairment and inheritance. In explaining the nature of symptoms, there are useful illustrated descriptions of the effects of rigidity and tremor with due emphasis on the organic rather than psychogenic cause. In a similar way it is pointed out that the disease does not cause many of the distressing symptoms which occur with other well-known chronic diseases like brain tumour, cancer and multiple sclerosis. The lack of readily available facilities for rehabilitation and skilled medical supervision is properly mentioned. In a brief historical section there is due tribute to the original essay of James Parkinson in 1817. The chapter on current medicinal treatment is probably the most authoritative section, being a useful reference for physicians as well as enlightening patients and their relatives. Physiotherapy is given due emphasis and the section on brain surgery is valuable in mentioning the limitations of this popular new form of treatment. Practical points regarding exercises and activities of daily living are included. Final chapters support public interest and community efforts to deal with

this major problem and outline the plans of two new Parkinson Foundations centered in New York City.

As a neurologist the reviewer found this book helpful regarding practical aspects of treatment. It will be of still further interest to general practitioners and patients.

J. CLIFFORD RICHARDSON, M.D.,
Toronto General Hospital,
Toronto, Ont.

THE MAZE TEST AND CLINICAL PSYCHOLOGY.

By Stanley D. Porteus, D.Sc. (Palo Alto, Calif.: Pacific Books, 1959, pp. 203. \$5.50.)

In his present work Professor Porteus conveniently brings together a significant body of evidence relative to functional impairment and behavioral effects attendant upon all types of psychosurgery, vitaminosis and the use of chlorpromazine. The Porteus Maze Test, the history and articulation of which are discussed in Chapters III and XI, has proven to be one of the most sensitive measures of brain damage available.

In use since 1915, the Maze Test has been variously conceived and employed as a test of generalized planning capacity (prehearsal and prevision), testing a segment of general intelligence neglected or inadequately assessed by any other series of tests (*cf.* p. 42)—a performance test of considerable diagnostic significance in the classification of psychoneurotics as dysthymics on the one hand, and hysterics and psychopaths on the other (*cf.* pp. 95 ff.)—a prognostic test which serves at least as a partial index of social adaptation (p. 84) having considerable predictive value in the identification of delinquent and protodelinquent disposition (*cf.* particularly pp. 90, 94) as well as potential industrial efficiency (p. 91).

The Porteus Maze is among the few tests which provide insight into the behavioral effects and functional performance reduction on the part of operates subjected to standardized local lesion of the brain. It is a test specifically conceived as measuring foresight and general planning capacity. Since, according to Maze Test results, frontal lobe damage results in a marked reduction of planning ability, this provides strong presumptive evidence that planfulness is at least mediated by the frontal lobes (*cf.* pp. 39 f., 47, 62).

To the clinician and the psychiatrist the effectiveness of the Maze as a sensitive indicator of brain damage is perhaps its prime importance. Postoperative examination, employing such standard testing devices as the Kohs

Block Design Test, the Rorschach Test and the Wechsler-Bellevue afforded only negative or indifferent results (*cf.* pp. 53, 62 f.) while the Maze revealed extensive and apparently lasting impairment of the critical functions of initiative and response (pp. 54, 62), results which accorded themselves well with the intuitive estimate of the results of lobotomy tendered by qualified observers. As a consequence of maze testing these intuitive judgments are now supported by quantified test results, results so sensitive that tentative generalizations can be hazarded which would indicate that damage inflicted on more anterior or rostral portions of the frontal lobe result in much less Maze impairment than those inflicted at a more posterior site (pp. 60, 149). In lobotomy, the more serious losses in maze treading ability follow the more posterior lesion; similarly, topectomies in which ablations are superior and posterior result in more serious T(est) Q(uotient) reductions than inferior and anterior excisions. Trans-orbital lobotomy impairs¹ the operate's maze treading ability, thermocoagulation of areas 9 and 10 result in major maze treading deficits and thalamotomy, destroying the terminals of cortico-thalamic communication, apparently reduces the subject's preoperative maze score by 30 T.Q. points (*cf.* pp. 50 f.).

Such results, above and beyond their ability to indicate the extent of performance impairment consequent upon cortical excision, venous ligation or lobotomy, assist in determining the normal state function of the frontal lobes. Hitherto, assessment of the function of the frontal region of the brain exaggerated its importance to comparative intelligence. The studies conducted on lobotomized patients in the Columbia-Greystone projects provided only negative results with respect to reduction in the level of general intelligence as measured by standard "I.Q." examinations. Only Maze Test results seemed to indicate a critical reduction in important areas of intellectual performance, those associated with planned activity. There is strong presumptive evidence, therefore, that the frontal lobes mediate planned activity and subserve that signally human activity oftentimes referred to as "delayed choice" or "anticipatory delay."

When one considers the importance of "imaginatively experienced trial and error" in distinguishing the behavior of *Homo sapiens*

¹ The extent of this impairment cannot be confidently appraised until the available data are more analytically assessed (*cf.* Smith, A.: *J. of Ment. Sci.*, 106: July, 1960) and more data become available.

from that of the reflex or instinctual responses of his less distinguished antecedents, the importance of the development of the frontal lobes in man's secular evolution can hardly be underestimated.

The continued and increased usefulness of the Porteus Maze as a testing device mark it a hardy growth in the hothouse of psychometric techniques. As we have tried to indicate, its fruits, like its effective areas of application, have been many and varied. Interestingly enough, while Professor Porteus alludes, several times throughout the text, to the usefulness of the Maze in the study of primitive mentality (*cf.* pp. v, 8 f., 68, 83, 102), as well as racial temperament (*cf.* pp. 132, 134), there is no systematic exposition of the findings in the present volume similar to that which appeared in his earlier work, *The Porteus Maze Test and Intelligence* (Palo Alto, California: Pacific Books, 1950), Chapters IX and X. The omission of these findings is to be lamented. So little has been forthcoming in these areas that each failure to at least review the established findings is a serious loss. It is to be hoped however, particularly with respect to available primitive subjects, that maze testing be, in the future, conducted with the more expanded series of tests (*cf.* Chapter VIII, Extension Maze Series), in order to mitigate one of the cardinal objections raised against the testing of primitives. The employment of a single test series, particularly where there is a paucity of available subjects (as is often the case in primitive populations) make chance deviations disproportionately significant.

Professor Porteus has recently indicated that the Maze Tests can be considered a supplementary anthropometric approach (*cf.* "A New Anthropometric Approach" [with Kleman, J. P.]: *Mankind Quart.*, I: July, 1960). This coupled with the suggestion of Professor Corrado Gini, President of the International Institute of Sociology, that psychic traits be weighed in the classification of human populations (*cf.* "Possono e devono i caratteri psichici e culturali essere tenuti presenti nella classificazione delle razze umane?" *Genus*, XI: 1-4, 1955) augurs a rebirth of interest, on the experimental and speculative levels, in ethnopsychological differences.

Lucidity of presentation, a ready command of language, and a well-turned metaphor make the volume a model piece of professional literature.

Unfortunately there is no index.

A. JAMES GREGOR, Ph.D.,
University of Hawaii.

UNBEWUSSTES MALEN. EINE FOLGE VON BILDERN. Edited by *Margarete Mhe.* (Munich: Urban and Schwarzenberg, 1959, pp. 52. DM 40.—.)

This small volume covers a 4-year *Gemeinschaftsarbeit* (common project) between the therapist and the patient. The question how the painting of unconscious images originates, is partly answered by the patient. She states that there are two possible ways to paint an unconscious picture: one is to "let the brush act by itself," regardless of how the patient starts the painting; the other way is for the patient's visual imagination to arrive "suddenly," in relation to a specific individual or situation. Just prior to the commencement of a painting, the patient is often in a state of depression or anxiety, in which case the picture turns out to be "very strong." The text of this small volume is actually a commentary on the appendix, which contains 114 multi-color prints. Particularly for those therapists, psychiatrists or psychologists who use drawing and picture tests with their patients, this book is in a "must."

HANS A. ILLING, Ph.D.,
Los Angeles, Calif.

THE ALCOHOLIC PSYCHOSES. By *Benjamin Malzberg.* (New Haven, Conn.: Publications Division, Yale Center of Alcohol Studies, 1960, pp. 46. \$2.00.)

This short book of 46 pages presents and analyzes statistics on first admissions with alcoholic psychoses. Statistics are first analyzed for all state hospitals in the United States. The main portion of the book is taken up with an analysis of the figures for the State of New York. The figures from the New York State hospital system are quoted from 1910. It is pointed out that these figures are available since 1909 and that similar data from private and other licensed hospitals are available since 1941. It is stated, however, that admissions to the state hospitals represent 95% of all admissions with alcoholic psychoses and that they therefore explain the trends found in the figures reported. The rates are then discussed on a yearly basis and for such things as age, sex, education, race. These figures therefore give a rather good idea of the alcoholic psychoses and the reader can get valuable statistical information on this subject by a careful reading of the report.

KARL M. BOWMAN, M.D.,
San Francisco, Calif.

IN MEMORIAM

ARNOLD GESELL

1880-1961

Arnold Gesell died on May 29, 1961, one month short of his 81st birthday. A long illness precluded his participation in the American Psychiatric Association Regional Research Conference on child development and child psychiatry arranged as a tribute to him in his 80th year. This symposium was perhaps a symbol of the increasing acceptance of the monistic approach to child behavior which was such a basic part of his philosophy.

Gesell's own career could well be described in terms of the developmental principles he set down in delineating the maturation of behavior. He started in education as a school teacher and later a school principal in Wisconsin. His insatiable quest for knowledge led him to graduate studies in psychology with one of the pioneer child psychologists, G. Stanley Hall, at Clark University. He received his Ph.D. in 1906 and his doctoral thesis was prophetic of his interest in the development of behavior which was to be his major life work. It dealt with the manifestations of jealousy, normal and abnormal, in animals and in man at ascending age periods, beginning with infancy. In 1908 he went to work with Lewis M. Terman in psychology at the Los Angeles State Normal School. This association and the observation of the work of another great pioneer in child psychology, Lightner Witmer, and of Goddard at the Vineland Training School in New Jersey, marked the beginning of his interest in backward and defective children.

Any ordinary family man of 30, having attained a certain level of maturity, would have felt it was time to settle down; but the task that was to occupy the next 50 years was taking shape in his mind, namely, his desire to study thoroughly all of the developmental stages of childhood. He was already highly trained and with his wife, also on the faculty of the Los Angeles State Normal School, was writing a book entitled *The Normal Child and Primary Education*

which appeared in 1912. Gesell summed up his position as follows: "But with all my training I lacked a realistic familiarity with the physical basis and the physiological processes of life and growth. To make good this deficit I would have to study medicine." He started his medical training in Wisconsin, but in 1911 was appointed Assistant Professor of Education at Yale University. He was able to do graduate teaching at the same time he was carrying a full program of medical study and he received his medical degree from Yale in 1915.

Concurrently with his work as a school psychologist for the State of Connecticut in the identification of and planning for handicapped children, and his examination of children with clinical problems, he was engaged in the supervision of a research staff which was making a systematic survey of the developmental patterning of behavior. These studies culminated in 1925 in a book whose full title gives the scope of the research program: *The Mental Growth of the Pre-school Child: A Psychological Outline of Normal Development From Birth to the Sixth Year, Including a System of Developmental Diagnosis. Illustrated with 200 Action Photographs*. Early in the course of these studies he evolved the important methodologic tool which was to facilitate his investigations so tremendously. This was the technique of cinemanalysis, and when the clinic moved to new quarters he constructed a one-way vision dome for the purpose of making systematic photographic recordings. With his collaborators, pediatricians and child psychologists, he embarked on a detailed elaboration of the outline set forth in his 1925 book. In 1934 the 2-volume *Atlas of Infant Behavior* was published. It included some 3200 photographs derived from the original films. The normative series was a systematic presentation of behavior at various ages; the naturalistic series was a study of the responses of individual infants and their mothers to the activities of daily



ARNOLD GESELL

living: *Infant Behavior: Its Genesis and Growth* (1934) and *The Psychology of Early Growth* (1938) were elaborate statistical analyses of trends in the first year of life.

Cinematography was used for more than the documentation of behavior. It was a research tool for the analysis of the morphology of behavior patterns. Gesell considered it a kind of paradoxical embalming. The photography preserves instantaneous frozen sections of motion yet at the same time makes the behavior live again at the will of the researcher and makes it accessible to detailed analysis. Systematic observation of over 300,000 feet of film led to the categorization of countless behavior patterns at all ages. Normative criteria were evolved for the total evaluation of the developmental status in the areas of motor, adaptive, language and personal-social behavior. From this systematic study a broad conceptual model of child development was derived.

In essence this model is monistic. Gesell believed that there is a single developmental morphology and as the soma takes shape so does the psyche. The child comes by his mind as by his body through the organizing processes of growth. The delineation of different areas of behavior is useful for descriptive purposes, but the developing infant is an integrated organism, a unitary action system. The model embraces all levels of integration from the anatomical through the physiological, psychological, social and cultural.

Implicit in Gesell's thinking was the concept that man's structure and consequently his function is genetically determined, and that although the progressions of development are engendered by the maturation and growth process, the inherent developmental potentials in themselves are not sufficient to give final form to human behavior. The human infant manifests his uniquely human characteristics and grows into a human adult only in a human environment. Man's culture is an essential element in man's development. Through the use of his methods it has been demonstrated that, given minimal structural prerequisites and a minimum level of environmental stimulation, constitutional and maturational factors are most important in the period of infancy; at

this age there is a relatively narrow range of variability. Because behavior has shape and direction it is predictable, but it is also modifiable by an ever-widening set of environmental influences with increasing age. Most important, however, is the fact that the kinds of environmental factors on the social, psychological and biological levels that will cause modifications in behavior, as well as the direction that these modifications will take, can also be predicted.

Gesell's impact on the parents of America has come through the popularized version of his observations such as *Infant and Child in the Culture of Today* (1943), *The Child from Five to Ten* (1946), and *Youth: The Years from Ten to Sixteen* (1956). His influence on child psychology has been tremendous from a theoretical point of view. From a practical point of view his effect on clinical psychologists holds a less enviable position. Some still persist in using the old discarded norms found in *The Psychology of Early Growth* (1938) or *The First Five Years of Life* (1940) because they provide the neat system of adding plus and minus scores which is so much a part of psychological testing. Those who have attempted to use the revised norms, which have proved themselves to be both reliable and valid, are discomfited by the necessity for the clinical evaluation, albeit imprecise, that is so common in medicine. They are understandably handicapped by their unfamiliarity with disease processes in medicine in general, and in neurology in particular.

Gesell's impact on medicine is most important, however, and its full potential is still to be realized. He was perhaps the first to insist that development, as well as disease, belongs in the province of clinical pediatrics, child psychiatry, and child neurology. Only after using his methods in the detection of abnormality did Gesell realize the importance of training physicians, and he entered upon this phase of his activities relatively late in his career. Again he emphasized the monistic point of view, that the developmental process can not be fragmented, and he insisted that his physicians acquire competence in all aspects of the evaluation and not relegate pieces of it to other disciplines. Thus, the physician learned to take a developmental history, to

do the examination, to discuss the problems with the parents, and to help them with management and guidance. His most important books are probably his least known. These are *Developmental Diagnosis* written in 1941 and revised in 1947, which is his clinical textbook of infant neurology, and its theoretical companion piece, *The Embryology of Behavior*, written in 1945. Unfortunately, Gesell was able to train only a handful of physicians, and although they came from all over the world their number is pitifully small. The methods of developmental diagnosis do not occupy the place that they deserve in clinical medicine and very few of the physicians he trained are engaged in full-time teaching. The need for adequate evaluation of central nervous system functioning in early childhood is becoming increasingly apparent as the neuropsychiatric disabilities are more frequently recognized. There will be an increasingly secure place for a clinical neurologic tool which does more than detect the deviant and define the nature of his abnormality and his prognosis for the future.

Gesell was Professor of Child Hygiene at Yale, and when the Clinic of Child Development moved into its new quarters in the Institute of Human Relations in 1930 Yale became the first institution to accord the new field of child development departmental status in a medical school. After his retirement in 1948 Gesell was appointed a

research associate with the Harvard Pediatric Study and was a research consultant at the Gesell Institute of Child Development, a private organization founded in his honor in 1950. He was President of the American Academy of Cerebral Palsy, a Fellow of the National Academy of Sciences, a member of the National Research Council, a consulting editor of *Genetic Psychology*, and a Sigma Xi lecturer. He received many honors during his lifetime.

Although in Dr. Gesell's view a scientific clinical psychology and clinical psychiatry should be based primarily on the science of normal human growth and only quite secondarily on psychopathology, particularly a psychopathology conceptually derived from a study in theory of adult symptoms, he nevertheless illuminated all areas of psychopathology—brain injury, mental deficiency, handicapping conditions of all types in children, cretinism, mongolism, and many others. Mention must also be made of the method of co-twin control which was used in studies from infancy to adolescence and his ambitious investigation of the development of vision.

Arnold Gesell's contributions to science are as many and as long as his bibliography which consists of more than 400 monographs, papers and books. They have been incorporated into the living body of the life sciences, never to be lost.

Hilda Knobloch, M.D.

EVEN A HABIT CAN BE BROKEN

That a certain thing has been done ever since the world began is no reason why the same thing be done till the end of it.

—MARIE V. EBNER-ESCHENBACH (1830-1916)

REVIEW OF PSYCHIATRIC PROGRESS 1961

HEREDITY AND EUGENICS

FRANZ J. KALLMANN, M.D., AND EDWARD V. GLANVILLE, Ph.D.¹

Growing recognition of human genetics in all medical specialties was stimulated by the development of new research techniques in one or the other of its young hybrid branches—biochemical and microbial genetics, cytogenetics, pharmacogenetics, radiation genetics, and the like. In line with this trend, productivity in the subdisciplines of behavioral and psychiatric genetics (mental health genetics) showed an equally sharp rise during the past year. Not only was there a great variety of specialized symposia dealing with recent advances in microcellular, psychological or psychiatric genetics, but there were very few regional, national or international meetings in the field of psychiatry that did not include some pertinent genetic research report in their program.

Among the special symposia were those held on The Molecular Basis of Biological Individuality at the Albert Einstein College of Medicine (New York, May 29); on Medical Genetics at the A.M.A. meeting in New York (June 27); on Cellular Regulatory Mechanisms at Cold Spring Harbor (June 4-12); on Behavior Genetics at the Center for Advanced Study in Behavioral Sciences (Stanford, August 14-31); on Clinical Aspects of Genetics at the Fifth Annual Postgraduate Week of the New York Academy of Medicine (October 23); on Expanding Goals of Genetics in Psychiatry (1936-1961) at the annual meeting of the Eastern Psychiatric Research Association (October 27-28); on Genetics at the divisional meeting of the APA in New York (November 10); and on Physiological and Biochemical Aspects of Human Genetics at the A.A.A.S. meeting

in Denver (December 29-30). Additional symposia with partly or fully published proceedings dealt with the genetic aspects of aging (43) and disease resistance (26), metabolic changes and the isolation of a serum factor in schizophrenia (Conference on Biological Aspects of Schizophrenic Behavior, New York Academy of Sciences, April 6-8) and with other selected topics of clinical, cytological and population genetics (15, 44, 64, 66, 71).

Observers generally agreed that the highlight of the past year in medical genetics was the Second International Conference in Rome (65) which was attended by over 800 delegates from many countries. The diversified yet compact program was arranged by its able president, Professor L. Gedda of the Gregor Mendel Institute in Rome. The opening address delivered by F. J. Kallmann was focused on the need of unified professional standards and improved training programs for workers in medical genetics (65). The methodological and psychotherapeutic aspects of modern genetic counseling procedures were discussed by the same speaker at several other meetings including the Third World Congress of Psychiatry in Montreal and the Fifth International Congress for Psychotherapy in Vienna. The renewed interest taken by mental health specialists in the genetic facets of family guidance work was clearly reflected in the two sessions of the Rome congress devoted to behavioral and psychiatric genetics under the chairmanship of J. L. Fuller and F. J. Kallmann, respectively. A special session on neurological genetics, chaired by Professor Van Bogaert, was held jointly with the International Congress of Neurology.

The output of up-to-date introductions to

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the basic principles of human genetics also grew during the past year. New books in this category were those by Fritz-Niggli (25), Eldon Gardner (27), Lytt Gardner (28), Lenz (49), Li (50) and Penrose (62). More specialized in content were the books by Hadorn on lethal factors in the frame of developmental genetics (33), by Stanbury, Wyngaarden and Fredrickson on the metabolic basis of inherited disease (69), by Szent-Györgyi on submolecular biology (74), by Waardenburg, Franceschetti and Klein on the genetic aspects of eye diseases (79), as well as the third volume of the Italian series of genetic monographs edited by Gedda (30) and the first volume of a new series edited by Steinberg (70). An excellent chapter on "Heredity and Psychological Abnormality" was contributed by Shields and Slater to Eysenck's *Handbook of Abnormal Psychology* (20). Two older but still timely monographs that only recently became available here were the one by Hanhart (34) on 800 well-documented cases of Down's syndrome, and Murakami's report (58) on hereditary disorders associated with status dysraphicus (interpreted as "stage-specific abnormality resulting from incomplete closure of the neural tube").

In Steinberg's volume entitled *Progress in Medical Genetics* (70), scholarly treatises on mutation (Crow) and natural selection (Haldane) in man, on blood groups and disease (Clark), ABO incompatibility (Levene and Rosenfield) and the hemoglobinopathies (Rucknagel and Neel) and on the morbidity of children from consanguineous marriages (Morton) were combined with well-timed chapters on genetics and congenital malformations by Clarke Fraser and on chromosomes and human disease by Ferguson-Smith, the recipient of one of the 1961 R. Thornton Wilson Awards (basic sciences) in Genetic and Preventive Psychiatry. Another fine chapter on prudently controlled selection in man was contributed by Crow in Graubard's thought-provoking volume on evolution and man's progress (32).

In the multilingual third volume of *De Genetica Medica* (30), the subjects covered by 20 contributors ranged from the embryopathies (Lamy and Maroteaux), clinical cytogenetics (Böök) and the effects of

ionizing radiation (Lejeune and Turpin) to such applied topics as counseling (Reed) and genetic principles in the choice of occupation (Ronchese). Various phenomena of demographic significance were reviewed by Hanhart (population isolates), Serra (consanguinity effects) and Turpin and Cruveiller (infant mortality, parental age and marital fertility, longevity).

Interesting twin data were published by Kaij (42) in relation to the problem of alcoholism, by Jarvik, *et al.* (41), on survival trends in senescence, by Lowenstein (51) and McCormack and Sheline (53) on concordance for hyperthyroidism, and by Slater (67) on the heterogeneity of the clinical classification of "hysteria 311." The histories of a series of triplets were reported by Degenhardt, *et al.* (16). Other detailed family histories were compiled by Asano (1) with regard to manic-depressive psychosis, by Lauter (46) on Alzheimer's disease, by Neel, *et al.* (59), on hypothyroidism, by Tanaka, *et al.* (75), on Morquio's disease, and by Wendt, *et al.* (81), on Huntington's chorea. General problems of medical and population genetics, the intriguing new field of pharmacogenetics, and the position of genetics in the medical school curriculum were discussed by Doxiadis, *et al.* (18), Evans and Clarke (19), Gedda (29), Hernndon (37), Hsia (39) and Osborn (61).

In the particularly fertile area of cytogenetics, the stream of new reports continued unabated, with *Lancet* remaining the main vehicle of publication. For those seeking an introduction to the intricate subject, there were several good general reviews including Lennox' "Chromosomes for Beginners" which could not be bettered (30, 47, 48, 56, 70). Specialized reviews dealt with sexual anomalies (4, 22, 40), the cytogenic aspects of mental deficiency (3, 73), chromosomal satellites (21) and the phenomena of trisomy and translocation (6, 68, 77).

Of the various forms of disturbed sex development, Turner's syndrome usually caused by the loss of a sex chromosome threatened to become a veritable labyrinth. Jacobs, *et al.* (40), found chromosomal aberrations in almost half of their cases of primary amenorrhea, but only a third of them had the classical XO constitution.

Mosaics were frequent (XO/XY, XO/XX, XO/XXX and XO/XYY) as were forms with 46 chromosomes in which one X was normal and the other incomplete. It was therefore concluded that the absence of the second X short arm suffices to induce this syndrome. There were, however, several reports on masculine Turner cases(5, 12) and on congenital anomalies simulating gonadal aplasia(60). In fact, a case examined by Chu, *et al.*(12), turned out to be a karyotypically normal XY.

In Klinefelter's syndrome, several new variants were recorded in addition to the known XXY and XXXY forms, notably the XYYY(10) and XXXXY(24) karyotypes. A special variant of superfemaleness with an XXXX constitution was also described(11).

Among the autosomal irregularities, an anomaly possibly involving the long arm of chromosome 2 was reported in several cases of Waldenström's macroglobulinemia (7, 31), along with a clinical syndrome associated with trisomy of chromosome 17 (Lancet, 2 : 31, 1961) and still unconfirmed cases of partial trisomy found in Sturge-Weber's syndrome. A translocation (possibly involving chromosomes 13 and 22) was observed in a mother and four children (57). Each had 45 chromosomes, although the mother appeared phenotypically normal. All the children were mentally defective and grossly retarded in speech development. In regard to Down's syndrome, the observation of a trisomic chromosome 21 in a mongoloid mother and her similarly affected child was also placed on record(35), while an intelligent child with some mongoloid features was found to be a 21-trisomy/normal mosaic(13). In connection with the finding of a trisomal child born to a hyperthyroid mother, it was even postulated that hyperthyroidism may increase the likelihood of non-disjunction during gametogenesis (78).

Acute and chronic myeloid leukemias were found to be associated with a deletion of material from chromosome 21 (2, 17, 76). With mongolism resulting from an abnormality apparently involving the same chromosome, the frequent association of leukemia with mongolism became more understandable(80). In another family, the concurrence of an XXXXY male (Klinefel-

ter), two 21-trisomics (mongoloid females) and a leukemic male was described(55). Also, there was a report on a phenotypically normal woman with only 45 chromosomes and a 15-21 translocation, who had a spontaneous abortion, and later gave birth to three mongoloids and a child that died at the age of four of acute leukemia(9). Finally, there were cases of phenotypically normal individuals with chromosomal abnormalities, who produced abnormal children, presumably due to the presence of a translocation that may not affect the individual carrying it, but may greatly increase the chance of non-disjunction occurring during gametogenesis(9, 23).

Another remarkable finding was that studies of tissues taken from aborted fetuses showed the frequent relation of fetal death to gross chromosomal abnormalities(63). Of equal importance from a practical viewpoint was the fact that the observation of possible damage to the chromosomes (leukemia and the like) brought into critical review the risks involved in using radiation for therapeutic purposes(8, 14, 36, 38, 72).

A promising start was made in screening members of the general population to determine the extent of natural karyotype variation(52, 54). Even more exciting was the achievement of Kopac whose exploration of living cells by microsurgery paved the way towards a better understanding of cellular differentiation(45).

Noteworthy events of general genetic interest included the inauguration of the William Allan Memorial Award for outstanding work in human genetics, which was marked by the presentation of a replica of the medal to Allan's family at the annual meeting of the American Society of Human Genetics. The first Darwin Lecture in Human Biology was delivered in London by C. E. Ford on "The Cytogenetics of Sex in Man"(22), while the 1961 Jesup Lectures at Columbia University were given by C. H. Waddington under the title "New Patterns of Morphogenesis." The 1961 Thomas William Salmon Memorial Lectures were delivered by Seymour S. Kety, and the second McDougall Memorial Lecture (Rome, 1961) by John D. Rockefeller 3rd who stressed "some effective and acceptable means of population stabilization" as one of man's most pressing

needs, but advocated a careful study of population problems before taking any action. The R. Thornton Wilson Award in clinical genetics was shared by Drs. K. Altshuler and B. Sarlin for research on schizophrenia in the deaf.

The medical world was saddened by the death of Dr. Bertil Hallgren of the Karolinska Institutet in Stockholm. His genetic interests ranged from retinitis pigmentosa to dyslexia and his untimely demise was an irreplaceable loss to psychiatric genetics.

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NEUROPHYSIOLOGY, CHEMISTRY AND ENDOCRINOLOGY

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Denny-Brown and his co-workers have come to think of the operation of the motor system, particularly in relation to the cerebral cortex, as a precise balance of positive and negative tropisms, reaching out and pulling away, with appropriate associated feeling tone. This view tends to illuminate, in particular, syndromes related to lesions of the parietal lobe. It seemed to me that a brief summary of this work might interest psychiatrists as it offers some neurophysiological explanation for compli-

cated behavior. The sensory stimuli which elicit these two opposing types of activity are predominantly tactile and visual. The magnetic, exploratory aspect of behavior is organized in the cortex of the parietal lobe and is released by frontal and temporal lobe lesions. Conversely the repellent, negative response is related to the premotor, cingulate and hippocampal regions and is released by parietal lesions. When one of these patterns is unopposed due to injury of an appropriate area of the cortex, touch or vision sets off the responses of reaching out or avoiding. The avoiding syndrome carries with it a distressed feeling and over-

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response to any unpleasant sensation. The exploratory syndrome is related to an increase in threshold for painful stimuli.

As a background to this discussion, it must be recalled that there are other patterns of motor response represented at levels lower than the cerebral cortex responding, for example, to body contact, movements of the neck and vestibular stimuli. These, body, neck and vestibular righting reflexes are released and become overactive with injury to cortical areas, and this explains many of the bizarre symptoms seen in patients with cortical lesions. I may remind the reader that in thinking of motor activity, tone and movement cannot be separated one from the other. Nor is it helpful at the moment to think of movement in relation to specific motor pathways. The motor system is reorganized at different levels in the nervous system. Many of the fundamental patterns of movement are laid down in the organization of the spinal cord.

The positive exploratory aspect will be dismissed with a word in the interest of brevity and because it has long been known that premotor lesions released a grasp reflex in response to tactile stimuli. In its most complex form this consists of orienting movements of the hand so as to bring the palm into contact with the stimulus when a grasp ensues. After removal of both temporal lobes, monkeys compulsively reach out to seize and examine objects. This is a positive response to visual stimuli, and is associated with a benign affect without fear or anxiety. The placing reactions are positive responses orienting the extremities to planes of space. They also are initiated by tactile and visual stimuli and are controlled by the parietal lobe.

The repellent behavior is demonstrated in patients with parietal lesions. This kinetic unilateral apraxia is seen most clearly with involvement of the non-dominant hemisphere. There is a general indifference to external events which have to do with the affected side of the person and extra-personal space with a failure of normal corresponding motor reactions. Also there is a more specific withdrawal from some events, particularly those of unpleasant or surprising connotation. The withdrawn arm shows extension of fingers, extension and pronation

of the wrist and flexion of the proximal joints. The patient is unaware of the withdrawal and is embarrassed when his attention is called to it. There are rejecting movements of the lips and the patient looks away from the examiner when he approaches on the affected side. He may behave as if the affected extremities do not exist. The whole personality of these patients is altered and they become indifferent and withdrawn. The avoiding postures are often maintained for considerable periods of time. This preservation amounts in some cases to catatonia; with less severe lesions there may be a compulsive repetition of unusual postures or movements. The abnormal postures appear to be related to the release of lower level motor patterns.

Lesions restricted to the parietal operculum and lateral portion of the postcentral gyrus are associated with unpleasant alteration of sensation in the opposite side of the body with spontaneous pain. A patient described by Denny-Brown and Chambers noticed an aching and soreness of the extremities. Even bright light became extremely unpleasant and noises of any kind increased the aching sensation and made her tense and nervous. She became withdrawn and emotional. With this restricted lesion the avoiding reaction enters consciousness in the form of unpleasant, poorly localized sensation. The avoiding reaction is more evident in lateral lesions of the parietal lobe and indifference the usual result of medial parietal lesions.

Exploratory and avoiding reactions were studied after cortical ablations in monkeys. Removal of the parietal lobes induced lasting changes in behavior characterized by overactivity of withdrawal from environmental stimuli seen in lips and extremities associated with the facial expression and movements of flight characteristic of anxiety. A loss of tactile and placing reactions showed a failure of reactions directed toward orientation in space. There was also a loss of exploratory motor behavior in relation to objects, individuals and events in the field of vision and field of contact. With this was an associated overactivity of withdrawal of limbs and self from new stimuli. Animals with this pattern showed heightened response to pin prick. Partial ablations

of the parietal region evidenced a greater release of visual avoiding reactions from posterior parietal ablation, of tactile and nociceptive reactions from anterolateral ablations and of catatonic types of postural reaction from postcentral ablation. The changes of behavior involve the whole organism, not merely the parts opposite the lesion.

Removal of the precentral gyrus (motor area) abolishes all but the simplest magnetic responses, but it merely impairs the negative ones. Exploratory movement projected into space appears to be particularly dependent on the precentral gyrus and pyramid. So called willed movements have to do with the ability to use motor patterns which are primarily reflex for purposes that involve a more tenuous reflex situation. The modulation of instinctive grasping by instinctive avoiding is necessary for the complete control of movement. If this balance is impaired all purposeful effect is correspondingly limited.

The repellent pattern appears to be older phylogenetically, simpler in organization and related to older portions of the cortex. The thalamic nuclei concerned in the avoiding reflexes are the anterior medial for tactile avoiding and the inferior portion of the pulvinar complex for visual avoiding. The magnetic response is related in the thalamus to the lateral posterior nucleus and the lateral portion of the pulvinar. The responses to vision can be served by cortical areas 18 and 19 of Brodman and are not necessarily dependent on area 17 which receives the visual projection fibers. The efferent pathways from the cortex are largely independent of the pyramidal tract.

Denny-Brown uses this same concept of breakdown of equilibrium between magnetic and repellent forces to discuss motor abnormalities related to the corpus striatum, such as Wilson's disease, Huntington's chorea, double athetosis, dystonia musculorum deformans and the Parkinsonian syndrome. The abnormal movements of which athetosis is an example are related to unstable equilibrium of the same grasping and avoiding reactions described with cortical lesions but now showing a more tonic persistent release. The Parkinsonian tremor is a more intense conflict of the same re-

actions. With progression of these diseases there is a tendency to the gradual development of fixed postures or dystonia. Thus an akinetic mute state of general flexion of all extremities with pronated wrists and extended fingers is characteristic of severe destruction of the globus pallidus. On the other hand severe destruction of the caudate and putamen nuclei causes a more rigid flexion of the upper limbs and extension of the lower limbs greatly intensified by suspending the patient free of contact with body surfaces. This latter type of posture called hemiplegic dystonia represents overaction of body contact and labyrinthine stimuli in the form of modified righting reflexes. The postures of dystonia can be modified by appropriate control of these factors. With destruction of the globus pallidus, labyrinthine righting reflexes are absent. There results a dystonia in flexion, determined by contact reactions. In both the globus pallidus syndrome and the putamen caudate syndrome the pyramidal tracts may be completely intact yet the movements they are expected to perform are totally lacking. This is not because the pyramidal connections are interrupted. Stimulation of the precentral gyrus can still activate the limbs. The pyramidal tract is indeed essential for projected contact reactions of discrete body parts, such as flexion of one finger, but these must be based on some degree of reaction of the corpus striatum complex.

These patterns of dystonia following release or loss of righting reflexes may be demonstrated by experimentation. Bilateral removal of the parietal cortex in the monkey results in the release of substrate labyrinthine and body contact righting reflexes seen as a peculiar, plastic catatonic rigidity. Then removal of the labyrinthine reflexes by section of both eighth nerves results in the flexion dystonia seen after destruction of the globus pallidus. In this case the corpus striatum and precentral pyramidal system are still intact. The dystonia present in the hemiplegic patient is related to these same conflicting motor patterns. After hemispherectomy it has been clear that both motor and sensory performance have often been improved compared with the status before removal. This can only mean that un-

restrained activity of avoiding mechanisms can prevent function for which an alternate coarser mechanism is nevertheless present.

This material may be pulled together in relationship to changes in the individual and their significance to psychiatry. The motor patterns at the cortical level are related to two balanced systems of reaching out or avoiding, with corresponding feeling tones. These patterns may be released for demonstration in man by lesions of the non-dominant cortex so that the highest cognitive functions of the dominant cortex are not involved. Although the magnetic and repelling reactions are present only in the opposite affected limbs, the whole personality of the patients is changed. The monkey with both temporal lobes removed in spite of excellent vision shows no appropriate fear as a reaction to persons or threats. After removal of the parietal lobes, all stimuli are reacted to as unpleasant. The reaction to contact with the lips is changed from precise movement to heightened closure of the lips and turning away of the head. All four limbs show avoiding reflexes. The animal turns away from the observer and seeks the darkest place in the cage. With the release of either of these patterns the

subject holds abnormal postures which persist or recur after the stimulus and may have a catatonic quality. These postures are related to released righting reflexes. In less severe form the abnormal postures break down into compulsive motor patterns repeated over and over again. The patient shows no awareness of the disability. Whenever the equilibrium is disturbed, either in the magnetic or repellent direction, relationships with other individuals are seriously disturbed. The withdrawal picture suggests schizophrenia in many ways. When the avoiding reactions are overactive they dislocate positive behavior and its evidence of positive recognition of stimuli in proportion to the degree of their overactivity. Surprisingly enough the overactivity of exploratory positive behavior also disturbs the mechanism of precise identification of stimulus, particularly of objects, other animals and man.

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ELECTROENCEPHALOGRAPHY

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The major progress of recent years in the field of electroencephalography was reflected in the work of the Fifth International Congress of Electroencephalography and Clinical Neurophysiology, as well as in the joint sessions of electroencephalographers with neurologists and epileptologists. These meetings were held in Rome in September, 1961. We shall summarize a few papers presented at these meetings. However, another contribution which may have major significance in psychiatry and which was presented elsewhere, will be considered first.

Excitability Cycle in Normal Subjects and Psychotic Patients. Evoked potentials elicited by paired stimuli, separated by varying

intervals, were recorded by averaging techniques. Evoked potentials for somato-sensory, auditory and visual modalities were studied. Excitability cycles derived from these observations showed, in some psychotic patients, deviations from normal in a direction suggesting operation of an inhibitory process(17).

Reticular Formation Revisited. Recently, EEG synchronization, and not desynchronization, was obtained by a low rate electrical stimulation of the brainstem reticular formation and of the region of the solitary tract in both the intact and *encéphale isolé* cat. This synchronization was expressed by either 1) short lasting outbursts of slow waves, occurring only during the stimulation, or 2) an EEG synchronization outlast-

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ing the brain-stem stimulation (with clear cut behavioral signs of sleep in the intact animal)(16). Conversely, the discovery of the absence of EEG synchronization in certain phases of deep sleep with a concomitant electromyographic silence held the attention of several workers. This "paradoxical phase" of sleep is considered in the light of investigations carried out on 66 chronic cats as due to the activity of a center located in the pons. While the slow phase of sleep is generally considered as an expression of a corticofugal activity inhibiting the activating reticular substance, the "fast" phase of sleep may be considered as due to the hypnogenic activity integrating the nucleus reticularis pontis with that of the limbic structures(8). Indeed, during the phase of neocortical desynchronized activity, the hippocampus shows an organized theta rhythm according to certain authors(11). The disappearance of muscle tone during the paradoxical phase precedes the characteristic brain changes. One should also note that alerting reactions could be obtained, not only following the stimulation of the mesencephalic reticular formation, but also from the median thalamus provided that high frequency stimulations are used (75-100 c/sec.). Thus, the frequency of stimulation seems to play a much more important role in the genesis of sleep and alerting reactions than was believed only a few years ago(14).

Subcortical EEG and Attention. Photically evoked subcortical electric potentials were investigated, while 1) the patient's attention was directed toward the flashes (the patient had to count their number), and 2) when the patient's attention was distracted from the flashes. Increased attention enhanced the amplitude of evoked potentials, while just the opposite was observed when the attention of the subject was distracted(7).

Conditioning and DC Potentials. Formation of conditioned defensive reflexes to optic stimuli is associated with steady potentials recorded in the visual, motor, and parietal areas. When the conditioning is established, a steady potential of several seconds duration and with an amplitude of one millivolt persists only in the occipital and motor areas(18).

Internal Medicine and EEG. Liver Diseases : EEG changes in liver diseases were confirmed by several workers. EEG patterns correlate with different phases of hepatic coma. The first phase is characterized by 4-7 c/sec. theta waves. The second phase, by the "triphasic waves," and finally, the last stage by generalized slow activity. Triphasic waves may be observed in other clinical conditions. However, if the symmetric distribution, a detailed contour, and frontal occipital lag in voltage peaks of the triphasic waves are taken into account, differential diagnosis is facilitated (1). Incidentally, some workers call triphasic waves, 2 c/sec. "pseudo paroxysmal" waves(19) and 2 c/sec. spike-waves(2). Some authors report a fairly consistent correlation between the ammonia levels of the arterial blood, the importance of EEG changes, and the state of consciousness(13).

Cardiopulmonary Diseases : One of the major developments of EEG was a relatively unexpected finding of the high incidence of EEG abnormalities in the decompensated cardiopulmonary diseases. Not only slowing of the basic rhythm, but also many instances of paroxysmal activity were recorded by workers from different countries. In one report(10) EEG examination of 52 patients with emphysema and chronic cor pulmonale resulted in abnormalities in two-thirds of the cases, 10 being severely abnormal. Abnormalities showed a correlation with the evolution of the disease : with a progressive decrease of the basic EEG rhythm, the degree of cardiac decompensation increased, in particular, the signs of right heart hypertrophy in the ECG increased in incidence. Severely pathological EEG's characterized the terminal stage of chronic cor pulmonale. Serial EEG examinations showed that normalization in the EEG might occur in cases with "stable" cor pulmonale. Finally, systematic EEG examinations contributed to the detection of focal cerebral accidents(6). The authors of the latter cooperative study covering observations made in Marseilles, Budapest, Heidelberg, Prague, Genoa and San Francisco, claim that EEG permits one to evaluate the degree of slowing of the respiratory functions of the blood. Analogous findings were reported in congenital heart

diseases(3, 4). Important findings are reported in connection with observations made during open heart surgery. In particular, persistent EEG changes suggest a poor prognosis(5, 9, 12, 15).

It seems, indeed, that a new field of clinical EEG has been opened for investigation and clinical application.

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CLINICAL PSYCHOLOGY

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The focus of this review is on journal articles in selected problem areas of interest to psychiatry. The articles are written, in the main, by psychologists; the period of coverage is approximately from November 1, 1960 to November 1, 1961.

Brain Damage : Current studies in this area emphasize the complexity of measurement but at the same time hold out promise for the future. Hamlin and Kinder (33) found definite evidence of impairment in topectomized schizophrenics on a multiple choice vocabulary test, but not with the Wechsler Vocabulary Test. Variation in stimulus conditions and consequent effects on performance on the Archimedes Spiral, a test which has received a great deal of attention in the recent past, have been investigated by Sindberg(70). The nature of the brain-damaged condition, *e.g.*, acute *vs.* chronic, is related to differential performance on the Wechsler-Bellevue and the Halstead Battery(21). Impairment of functions associated with laterality of lesion has been examined in a model study by

Stark(71) : left-sided lesion cases had a deficit in verbal learning but relatively normal performance on a visual task while right-sided lesion cases gave opposite results. Stein(72) introduced a promising new test for measuring impairment of visual-motor functioning and Sappenfield and Ripke (63) reported a striking differentiation of organics from schizophrenics and normals in a binocular rivalry situation. Eckhardt (19), in an interesting sidelight, provided evidence that states south of the 37th degree of latitude diagnosed organic disease significantly less frequently than northern states ! Gottlieb and Parsons(30) reported, using a coaction compass evaluation on Rorschach performance, that a brain-damaged population was similar to other psychotic groups in terms of weakened control and poor integration of control and affect. Birch and Belmont(8) concluded, on the basis of their Rorschach analysis, that there was clear evidence of impaired ability to analyze visual perceptions in the brain-damaged. In a similar vein, Talland(74) suggested that perceptual defects in Korsakoff's Syndrome are not secondary to a

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memory disorder but consist of isolation and rudimentary impressions and an impaired capacity to revise attitudes.

Schizophrenia: Piotrowski and Bricklin (59) reported a second and highly successful cross-validation of a Rorschach prognostic index of improvement for schizophrenic patients. A study by Goldman (27) of change in Rorschachs of schizophrenics treated by psychotherapy provided results which are congruent with the preceding study. Kantor and Winder (39) found that age level characteristics of the responses and estimates of Rorschach pathology were correlated with the pathogenic early environment of the schizophrenics and their premorbid adjustment.

The effects of introducing social motivation variables, such as censure and praise upon the behavior of schizophrenics has received increasing attention, although the results are somewhat inconsistent (29, 37, 45, 65).

Lothrop (46), in his review of the research on conceptual thinking in schizophrenics concludes that it is still difficult to state with assurance that the ability to formulate abstract concepts is impaired in schizophrenia, and makes several cogent suggestions for future research. Petrovich (56), using a projective Pain Apperception Test, states that pain perception in chronic schizophrenics is selective, defensive and meaningful, and purposive from the standpoint of serving their needs. Schizophrenics tend to underestimate size of body parts, and their pattern of underestimation differs significantly from non-schizophrenic women, according to Burton (10). Milgram (52) reports that male schizophrenics are able to shift their responses to a masculinity-femininity word association test in a feminine direction, but are deficient in selecting masculine responses under similar conditions. Female schizophrenics show exactly opposite results and both male and female schizophrenics differ from normals, in that the latter are able to shift in both directions. An impressive experiment by King, Armitage and Tilton (40) finds the operant-interpersonal method more effective than verbal, recreational or no therapy in promoting clinical improvement.

Prediction: Fulkerson and Barry (24)

concluded that research in prognosis with psychological tests requires a more complex mathematical model and research design than has been generally used so far. In a study which emphasizes both importance of base rate and the use of multiple criteria, Briggs, Wirt and Johnson (9) were able to greatly improve the selection of small subpopulations of pre-delinquent boys. Meehl and Dalstrom (50) presented rules of MMPI profile analysis which, applied to 8 cross-validation samples, gave rise to approximately 73% correct identification of neurotic and psychotic profile patterns. Gouws (31) found that an acquiescence scale derived from the MMPI discriminated significantly between psychiatric patients who, within 5 years, had relapses and those who did not. Successful prediction of suicide from the Rorschach test has been made by Daston and Sakheim (14), using Martin's signs. Weiner (77) has provided further cross-validation of Martin's signs.

Social Desirability and Response Set: The increasing use of personality inventories of the "true or false" nature, such as the MMPI, in problems of human behavior relevant to psychiatry, justifies mention of recent work on social desirability and response set. A socially desirable response may be defined as a "true" response to a personality item of socially desirable scale value, or a "false" response for undesirable items. An agreement or acquiescent response set, on the other hand, is defined as a tendency to agree or disagree with items regardless of their content (12).

Azrin, Holz and Goldiamond (4) find evidence for response bias in questionnaire reports of symptoms of fears. A provocative and extensive study by Couch and Keniston (12) describes individuals manifesting the agreement response set, "yea-sayers," as accepting impulses without reservation, and easily responding to stimuli exerted on them. The "nay-sayers" inhibit and suppress impulses, in many ways rejecting all emotional stimuli impinging on them. The former seem to lack internalization of parental control and manifest a need for external control. On the other hand, the "nay-sayers" seem to internalize the controlling functions of the parental figures, and suppression of impulses is maintained by a

fairly strong ego. One implication of this orientation is found in an experiment by Kuethe(42), in which he demonstrates that subjects who are low on verbalized awareness and high on acquiescent response set can be "led" to give testimony in the classic courtroom sense. The relative merits of differentiating these two variables are discussed in the following papers: 13, 17, 18, 51, 75.

Technique Oriented Investigations: Finney(20), in a factor analysis of the MMPI, including the original and many new MMPI scales, found factors representing constellations of personality variables similar to ego defenses of reaction formation, repression, projection and conversion. Silver and Sines(67) provided evidence that the MMPI scales differentiate different diagnostic groups in a state hospital, as well as acute and chronic samples. The relationship of a repression-sensitization scale derived from MMPI to other personality and behavioral measures is reported by Altrocchi, Parsons and Dickoff(2) and Byrne(11). In a highly detailed study of the Rorschachs of paranoid schizophrenic and neurotic patients, Hertz and Paolino(35) concluded that organizational pattern, thematic analysis and stylistic features of the response are important areas of analysis.

Pine(57) and Welch, Schafer and Denver(78) present manuals for rating aspects of the TAT based upon a psychoanalytic ego psychology point of view. These approaches may well be applied in a number of research contexts, and have value for the clinician in organization and analysis of thematic material.

Learning Without "Awareness": If a particular class of verbalizations given by a subject is reinforced by the interviewer, there tends to be an increase in the production of this class of verbalization by the subject who frequently will be "unaware" of this influence. Simkins(69) shows that nodding the head and saying "mmm-hmm" results in significant differences in the production of content and determinants in the Rorschach. Ullmann, Krasner, and Collins(76) find that reinforcement of the emotional words by the above technique results in a greater gain in adequacy of interpersonal relationships in group therapy. Levine

(43) concludes that there is no difference in comparative effectiveness of reflection of feelings and the approving sound "mmm-hmm" as techniques for increasing expression of feelings. Personality characteristics of the subjects are related to degree of response to the verbal conditioning procedure(5, 41).

Psychotherapy: Lyons(47) assesses the claims made for existential psychotherapy and concludes that while more "fiction" than "fact," it remains a "hope." Bandura(6) asserts that it remains to be demonstrated which of two conceptual theories of personality, psychodynamic or social learning theory, is more useful in modification of human behavior in a psychotherapeutic sense. Methodological problems in psychotherapy research are examined in a scholarly paper by Sargent(64).

Raskin(60), in a cross-validation study, found that patient variables such as education, occupation, type of treatment expected, associated with the therapist's rating of motivation of the patient to enter psychotherapy. One therapist variable, liking for a patient, was significantly correlated with the motivation ratings. Affleck and Garfield(1) failed to find a relationship between judgments of therapeutic assets and duration of therapy. Will a group of outpatients treated under favorable conditions, defined by the therapist in terms of frequency of interviews, improve more than a group treated under unfavorable conditions? McNair and Lorr(48) found no difference between two such groups after four months of psychotherapy. The judgment of suitability of the frequency schedule appeared to be associated with the therapist's personal reactions to the patient.

A number of investigators have concentrated on factors relating to outcome. Schroeder(66) reports that clients rated high on responsibility show more improvement in therapy than individuals who have a low sense of responsibility. The importance of the attitudes of the therapist again is illustrated in the study by Goldstein and Shipman(28). On the basis of a one-hour therapeutic interview, psychoneurotic patients who had a high expectation of symptom reduction from psychotherapy showed a significant reduction in symptom inten-

sity; and the degree of favorableness of the psychotherapist's attitude toward psychiatry and psychotherapy was positively related to the degree of symptom reduction. Changes associated with psychotherapy on the California Personality Inventory, especially on scales reflecting poise and interpersonal effectiveness, were found by Nichols and Beck(55). Gendlin(25) reports an interesting study in which clients who succeed most in therapy show a significantly higher degree of immediacy of experience at the end of therapy than do failure clients, a finding consistent with the expectancies of the existential psychotherapists.

The use of a standardized interview which can be systematically varied to examine subsequent effects upon behavior is demonstrated by Kanfer, Phillips, Matarazzo and Saslow(38). They found that interpretations tend to shorten the duration of utterances immediately following them; but after interpretations cease, interviewees tend to increase the duration of their verbal output in comparison with subjects who are not given any interpretations at all.

In a study investigating the reliability of the perception of clinical data, 6 experienced clinical psychologists observed 3 patient-therapist teams in psychotherapy sessions for 12 weeks(22). Ratings were made on a number of observational and inferential items. While the amount of agreement was significant beyond chance expectations, it was not sufficiently substantial to warrant confidence in the judge's observation. Practice, discussion and clarification did not enhance agreement!

Haggard, Brekstad and Skard(32) provide a thought-provoking examination of the reliability of the anamnestic interview. Statements during interviews were not particularly accurate as reports of prior events but seemed to reflect their subject's current picture of the past.

Miscellaneous Studies: Space does not permit a more adequate statement of the following studies of some import to the general field of dynamics of human behavior and psychiatric problems. In the area of hypnosis, Barber(7) has made a comprehensive review of the physiological effects of hypnosis, and other studies contribute to

the renaissance of interest in this area (26, 36, 44, 73). In the field of sensory deprivation, a technique which has given rise to much experimentation recently, the following papers will repay the reader: 16, 23, 34, 61, 62, 68.

A high relationship between medical and psychiatric symptoms manifested by both psychiatric and non-psychiatric medical patients has been reported by Matarazzo, Matarazzo and Saslow(49). Zigler and Phillips(79) find that hospitalized individuals who manifest symptoms of self-directed hostility have a more socially effective premorbid history than those with symptoms of avoiding others, self-indulgence or turning against others. A socio-psychological approach to the study of hospital social structure may have important implications for improved treatment programs(3). Murstein(54) found that hostile persons are less accurate in their perception of the trait of hostility in others than are friendly persons, and "insightful" persons are more accurate in the perception of hostility than are "non-insightful" persons. Evidence is provided of disturbed psychological adjustment in women who experience difficult deliveries, and/or give birth to children suffering from abnormalities or physical complications(15). Milton (53) illustrates the value of applying factor analytic techniques to the study of a single case, in this instance relating changes in blood pressure in a hypertensive patient to his interpersonal behavior over a period of several months. Finally, a study on creativity by Pine and Holt(58) is an excellent example of how projective materials approached from psychoanalytic theory can give rise to reliable analysis of complex concepts.

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CLINICAL PSYCHIATRY AND PSYCHOTHERAPY

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In the following survey of the publications contributing to the special areas of psychiatry assigned to us for consideration we have endeavored to select samples of interest representing as wide a variety of studies as permissible in a brief review, realizing that we have omitted many researchers and ideas of importance in this vast field of investigation which now commands the attention of so many workers.

In clinical psychiatry schizophrenia, for many years, has remained in the foreground as a focus for both research and speculation. To proceed with this topic we may consider what Lemieux(1) has called the "Changing Aspect of Schizophrenia." He has the impression that the overall clinical picture of the disorder has changed in that these patients do not seem to be as sick as they used to be, that the symptoms are less dramatic, that the manifest anxiety is greater, that they seek help earlier, and that the para-

noid types are more frequent, but have a better prognosis than formerly. Atypical forms appear more frequently in diagnosis and have given rise to a new terminology in clinical descriptions and in classifications. He offers some reasons for these changes. Rumke(2) presents the various contradictions in the concepts of schizophrenia, pointing out contrasting opinions on the disorder as a nosological entity, its basic nature, on genetic factors, on the significance of the clinical symptoms, prognosis, and other important aspects.

Regarding the birth order of schizophrenic patients, Schooler(3) studied a sample of hospitalized female patients and found that notably more of these patients came from the last half of their sibling group. In a sample of discharged patients he found a "disproportionately large number of last half catatonics and first half paranoids" the various aspects and variations of which are discussed. Klaf(4) continued his studies on homosexuality and paranoid schizophrenia using 75 female cases and 100 non-psychotic female controls. The findings are discussed in relation to Freud's hypoth-

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esis concerning the development of paranoid symptoms. They show "that until more scientific studies are made and analyzed, the hypothesis that paranoid psychotic symptoms develop as a defense against emerging unconscious homosexual wishes cannot be regarded as verified or refuted."

Rubert and co-workers(5) have reported a particularly informative study of olfactory hallucinations with a review of the literature. In 19 of 24 "acute" schizophrenic patients and in 11 of 12 "chronic" schizophrenics they found olfactory hallucinations to be as common as auditory ones. Unpleasant odors were reported more than three times as frequently as pleasant ones. Reasons for olfactory experiences being rarely reported among clinical accounts are pointed out. McGhie and Chapman(6) consider that the fundamental disturbance in schizophrenia is an impairment of ego functions, and particularly in the perceptive processes which lead to the interpersonal conflicts that are one of the main characteristics of the disorder. They discuss the findings obtained from the study of 26 early schizophrenic patients in the light of this concept.

The language of schizophrenic patients has been a focus of interest to psychiatrists for many years since the form, structure, and content of this behavior are very frequently indicative of the diagnosis. Gottschalk and associates(7) have made special, elaborate studies to measure inter-individual differences in the relative degree of disorganization of the personality and social relationships. They developed a unique procedure to measure patterns of speech in 152 chronic schizophrenics and have presented a scale for recording and evaluating the phenomena. Lorenz(8) has discussed at some length the problems posed by schizophrenic language in terms of representation, thought, logic, transmission of meaning, and other pertinent psychological complexities of the subject.

The non-psychotic residue in schizophrenia is discussed by Davie and Freeman(9) who point out the features that indicate clearly that the schizophrenic process does not involve the total mental life of the patients, and that many mental processes that are not directly involved in the psy-

chosis are effectively studied during psychotherapeutic sessions. On the basis of four independent scale ratings the degree of remission of 114 schizophrenic patients was reported by Williams and Walker(10). The ratings were made by a psychiatrist, a psychologist, a member of the nursing staff, and by the patient. "No relationship was found between degree of remission and outcome as measured by rehospitalization within one year of discharge." It was also noted that maintenance post-hospital tranquilizing medications did not appear to prevent relapse and rehospitalization. Simon and Wirt(11) in the search for prognostic factors in schizophrenia studied 12 such factors reported in the literature as having statistical value, and in addition personality, historical, and demographic data of 80 consecutive first hospital admissions were compared clinically and statistically during one year following the hospitalization. Some of the factors studied were prognostic of the hospital course, and others were related to longer term adjustment. Other significant findings were discussed.

Depressions in various settings have received considerable attention in psychiatric research. Dahlstrom and Prange(12) studied the characteristics of depressions and paranoid schizophrenia with the Minnesota Multiphasic Personality Inventory. Fifty cases of each condition were examined within 10 days after admission to a state hospital. Differential diagnostic features were noted. Coronholm and Ottosson(13) of Stockholm investigated the memory functions in endogenous depression before and after electroshock therapy by means of psychological testing methods. Twenty depressed patients as compared with controls displayed impaired learning ability but did not differ in retention. Forty-two patients who improved or recovered after EST displayed improved learning, but impaired attention. Among several interesting findings it was concluded "that the depressive state itself mainly impairs learning and electroshock therapy mainly retention." Trautman(14) presented a psychobiologic study entitled "The Suicidal Fit," on Puerto Rican emigrants. The basic emotional problem, the development of the "suicidal atmosphere," precipitating causes, and the breakdown of

the "antisuicidal barrier" (i.e., the psychosis) were investigated. He found a correlation between the suicidal fit and sex, age, and the menses. A symposium (15) by six contributors covers a wide range of clinical phenomena characteristic of depressive states in a variety of different settings. Cutler and Kurland (16) have reviewed the literature on types of rating scales as applied to personality studies from 1894 to the present. The authors have devised a carefully evaluated rating scale for quantifying the affective intensity of depressive states. According to their studies their method has proved to be a valid, reliable, simple, and sensitive tool which invites further uses.

The relationship between the dream and a psychotic hallucinatory process has been emphasized by Katan (17). Among the points expressed are that the events in the dream are hallucinated primitive ego-mechanisms, that the dream content is frequently the same as that of the psychotic symptoms, and that this impression of similarity between dream and psychosis is increased by the instances in which a psychosis begins with a dream. Also a psychotic patient not infrequently fails to distinguish between a dream and his psychotic symptoms. Vanderbuilt and McAllister (18) made a review of the literature relating to mental illness among hospitalized clergy, and studied in detail the case histories of 100 Catholic priests consecutively discharged from a private psychiatric hospital. The search for differentiating factors was made on a group of 100 lay patients discharged from the same hospital and also on a group of seminarians approaching ordination. A number of interesting differences between the groups are reported.

An extensive report on the subject of confabulation in the Wernicke-Korsakoff syndrome with a discussion of the literature was made by Talland (19) who points out that suggestibility was not found useful as an explanation. Among a number of other characteristics of the condition he states that "Korsakoff patients resist hypnosis and are not particularly gullible except in areas of perplexity" and that confabulation "occurs within contexts, which for the lack of adequately structured memories, are diffuse,

devoid of points of anchorage and orientation."

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The open hospital type of treatment was described by Hoch (20) in the fourth Israel Strauss Lecture. In discussing this system of therapy he pointed out the antecedent ideas that led up to the movement and outlined in some detail the advantages, the values to the patients, and also its relations to society and the law. Psychotherapy as a system of action was discussed by Hendin and associates (21) who presented the issues of a 4-year study in which techniques and concepts of the sociological theory of small groups were applied to the psychotherapeutic situation in an attempt to further the understanding of the relationship. Masserman (22) has presented a brief but sufficient coverage of the historical theories, practices, and the impacts of these on psychotherapy. He emphasizes the deep meanings of humanitarian psychotherapy and traces the developments and attitudes from the earliest sources of information. Under the title of "Psychoanalysis of Yesterday, Today, and Tomorrow," Heilbrun (23) compares the early "pioneer days and period of consolidation of psychoanalysis" with the present tendency to stagnation due to the attitudes of a large number of its representatives; the impact of this conservatism on a number of aspects of psychoanalysis and suggestions for the needed change are outlined. The problem of non-medical psychotherapists in view of the changing patterns of psychiatric practice is brought up by Fischer (24). He reviews the arguments for and against the private practice by such workers, and emphasizes that the current use of special drugs and other somatic accessory therapies limits the functions of a non-medical therapist, whose services, however, are useful in institutional settings with adequate medical supervision.

An article discussing the first appearances of consciousness in the infant, the energy in motivation, and consciousness in object relations and ego functions is presented by Anfreiter (25) in the psychoanalytic concept. Haley (26) in his paper on control in psychotherapy with schizophrenics made a comparison of various techniques of inten-

sive treatment. He includes some verbatim interview material. His analysis of the mechanisms involved deserves the attention of those therapists concerned with the psychoses. Wolpe(27) reports favorable results in the treatment of neuroses by a method he calls "systematic desensitization" which operates to eliminate "neurotic habits." Studies were made on 68 phobias and anxiety response habits in 39 patients, with follow-up evaluations, which indicated the success of this type of therapy. A comparison of the views of orthodox and existential psychoanalytic concepts of anxiety is the subject of a discussion by Malinquist(28). This article is valuable both for the historical review of concepts, and for the presentation of the modern current situation with these disciplines. Makenzie(29) outlines the basic ego states and goals in a paper on the psychodynamics and psychotherapy of depressions, where the basic reaction is to situations of narcissistic frustration.

Concerning transference situations in psychotherapy Zelig(30) gives an informative discussion of the "role of silence in transference, counter-transference, and the psychoanalytic process." He indicates the several functions of silence including the complexities, and Honig(31) outlines a number of the important points of value in the negative transference of psychotics under therapy. A special technique is described in some detail.

Psychoanalysis as a model for social science is the subject of an article by Seeley(32) who brings up a number of questions comparing psychoanalysis with physical science as a model for social science research. Parloff(33) considers the role of the family in psychotherapy including the current theories applied to the family situation. Treatment of the family relationships to the patient and family centered therapy are described. Haley(34) gives a general discussion of brief psychotherapy with the topics dealing with the scope, the initial interview, the direction of the patient, the hypnotic relationship as a model for psychotherapy, the process of trance induction, and the special functions of symptoms. Group therapy in the private practice of psychiatry is discussed regarding its areas of application,

the complexities of the techniques, the participation of the therapist and the opportunities available by Sheps(35) who believes that group therapy when properly conducted and combined with individual therapy offers the best opportunity possible for the improvement of the patient in private practice as well as in hospitals. In a preliminary report describing multi-dimensional group therapy Hes and Handler(36) express their experiences on a psychiatric ward in a university hospital (Yale University Medical School). Three varieties of group methods were used with the same patients and their relatives in the sessions, namely, meetings exclusively for the patients, mixed patient-relative meetings, and those exclusively for the relatives. A number of favorable results are reported.

During the year the practice of hypnosis in psychotherapy has become increasingly popular. Kaufman(37) has made a comprehensive review of hypnosis in its present aspects in terms of the history and development from modern viewpoints and applications with theoretical evaluations, and Kubie(38) has reviewed a great deal of literature pertinent to his thesis "Hypnotism: A Focus for Psychophysical and Psychoanalytic Investigation" of normal sleep and neurotic, psychotic, and normal mental processes. Suggestibility with and without hypnosis is the subject of an interesting article by Weitzenhoffer and Sjöberg(39) which discusses a number of different viewpoints. Some valuable aspects and uses of the Stanford Hypnotic Suggestibility Scale are emphasized and finally Rosen and Bartemeier(40) present the applications of hypnosis in medical practice emphasizing that since hypnosis is a clinical discipline it should be conducted in a medical school or teaching hospital, that it should be patient centered, and that training and experience should be provided in the department of psychiatry.

Among the numerous books that have appeared during the year in the broad field of psychiatric disciplines, we mention a few pertaining to this section.

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PHYSIOLOGICAL TREATMENT

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During the past year there has been a continuous stream of new psychopharmaca,

at least some of which seem worthy of mention.

New Drugs: Amitripyline (Elavil), according to reports to date, has an important

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place among the antidepressant drugs (1-7). It is an atropine-like isostere of imipramine with both a tranquillizing and antidepressant action and is well adapted to parenteral use. Its range of indications is similar to that of imipramine but it is both more potent and slower in its action, less liable to exacerbate psychotic symptoms, and therefore suited to the management of depressive pictures in a schizophrenic setting. The convenience of parenteral use is offset by some annoying and possibly dangerous side-effects which include torpor, nausea, blurred vision and occasional elevation of blood urea and alkaline phosphatase. It has been of striking benefit in some hopelessly depressed cases with hemiplegia, aphasia, etc.

Hydroxyphenamate (Listica), launched by its manufacturer at a special symposium (8), is making a strong claim for attention. According to these first reports it will relieve the symptom of anxiety in a great variety of conditions ranging from dermatoses to psychoses. Side-effects are said to be minor. Piperacetazine (Quide) is said to compare favorably with other phenothiazines but with fewer extrapyramidal reactions (9). Proketazine (10)—related to perphenazine—is said to be almost specifically anti-delusional and anti-hallucinatory; similar claims are made for valmethamide (11) (Axiquel), for alimemazine tartrate (12), for a butyrophenone derivative (13) R2028, and for a Russian preparation called isoprime (14), said to be helpful in neuroses and reactive states, especially those associated with hypertension. Carphenazine (Prolixin) is described as a relatively non-toxic drug with good effect on acute psychoses, though significantly impaired liver function has been reported (15-17). P-tolylboric acid (known as Clarmil in Italy) has an action resembling that of meprobamate, with low toxicity and few side-effects (18). A new synthetic analogue of reserpine, tetrabenazine (called Nitoman in England and Germany, and Fenoharman in Czechoslovakia) can promptly relieve manic excitement, but sometimes induces depression; it has reserpine-like side-effects, and appears to have some place in treating chronic schizophrenics who resist chlorpromazine (19-21). Hexacylconate (W1597)

is said to relieve apathy in the aged, and to allay anxiety and depression in younger subjects (22). Some new monoamine oxidase inhibitors, more potent but less toxic than iproniazid, have been described in France and here (23-25).

The early enthusiastic accounts of haloperidol have been followed by several more cautious reports. It has been recently described as a "moderately potent neuroleptic, much less effective than claimed by European authors, with numerous side-effects," extrapyramidal, gastrointestinal, and hypotensive (26-39). It appears to be markedly effective in relieving excitement, but also activates chronic schizophrenics, and has an especially favorable effect on paranoid-hallucinatory cases. Its many extrapyramidal side-effects require careful dosage, but it is suitable for outpatient use. It can be administered in psychotic cases that cannot tolerate or who fail to respond to phenothiazines, and is helpful in smaller doses to relieve anxiety.

Toxicity of Psychopharmaca: Two papers by Hippis and Korenke (40) provide a systematic and scholarly analysis of toxicity and side-effects of the phenothiazines and monoamine oxidase inhibitors respectively. From Puerto Rico comes an analysis of nearly 200 published reports of toxicity of the phenothiazines (41). The authors conclude that the main complications are: agranulocytosis, jaundice, dermatitis and seizures, and that the main side-effects are extrapyramidal, inhibitory, hypotensive and visual. Hurst too classified the phenothiazines according to their toxic proclivities (42). Though many cases may be carried for years with relatively little danger (43), when complications strike they may be serious.

The toxicity of Marsalid makes it practically obsolete, but the other monoamine oxidase inhibitors may prove to be almost equally dangerous. Ayd (44) thinks that not only iproniazid (Marsalid) but pheniprazine (Catron) can be considered too dangerous to use, but adds that isocarboxazid (Marplan) and phenelzine (Nardil) can also have distressingly severe and protracted side-effects. Nialamide has relatively few side-effects but is one of the least effective of the group. He believes that the

MAO inhibitors have been largely superceded by the antidepressants amitriptyline (Elavil) and imipramine (Tofr  nil). These two drugs are not only less toxic(45), but do not cumulate, seldom overstimulate and are thus suited for prolonged use. It should be noted, however, that imipramine induces a marked drop of both systolic and diastolic blood pressure, of a range of 20 to 50 mm. Hg in about half the patients, with associated ECG changes, sometimes leading to serious cardiac complications(46).

Is Shock Treatment Obsolete? The advent of the two shock treatments, insulin and convulsive therapy, opened a new era of physiological treatment in psychiatry. But have these treatments now been superceded by newer therapies? Rhodes and Sargant(47) on the basis of large experience over the years suggest that deep insulin coma may now be largely replaced by a judicious combination of chlorpromazine, electroshock and light insulin treatment, though coma may occasionally be necessary in some cases. Pichot(48) thinks that in present-day psychiatry insulin has only a small and doubtful place. Hoff(49), who is closely identified with the very beginnings of insulin treatment says, "It is quite possible that the time is approaching, and it may be quite soon, when the insulin treatment will no longer be used." In a comparative study McNeill and Madzwick(50) with a large and fairly acute case material found that trifluoperazine (Stelazine) produced better results than insulin on all counts.

Schipkowensky(51) declares that imipramine makes EST almost superfluous, though it will occasionally still be needed for certain urgent indications. Hastings(52) reports a unique case of long term prophylactic EST in a manic-depressive patient whose recurrent psychotic episodes could only be prevented in this way.

The Management of Depressions: Refined experiments have their useful place, but the trouble is that clinical activity is constantly outflanking the experimenters by posing urgent daily problems that cannot await the definitive experimental answer; and when the definitive experimental answers arrive the problems often have already departed. The physician must thus

often rely on the complex of considerations that comprise clinical judgment. But there are unfortunately too few papers written in the spirit of sound and perceptive clinical judgment. Zetler(53) correctly emphasizes the necessity for deeper knowledge of both the pathophysiology of psychoses and the physiological action of drugs to relieve the empiricism on which we must depend. Sargant's discussion of the treatment of depression is well worth reading as an example of thoughtful empirical judgment(54). He plays down the importance of EST, and thinks fewer treatments—perhaps 2 to 6—more widely spaced are nowadays usually sufficient, and should be used especially for involutional depressions; younger patients are less responsive. Modified insulin can restore strength in emaciated patients. Tofr  nil approximates the range of efficacy of EST, but the MAO inhibitors seem best suited to the neurotic and atypical depressions. For very chronic intractable depressions or tension obsessive states small frontal leucotomies are still worthy of consideration. Delay and his associates(55) think highly of Tofr  nil. The contributions of Kline and others on the treatment of depressions in a special supplement of the *Journal of Neuropsychiatry* provide a good review of the topic(56).

Drug Notes: Severe withdrawal symptoms after sustained high dosage of Librium are reported(57). Favorable reports on chlorprothixine (Truxal in Germany, Tactan in U.S.A.) confirm its potency and low toxicity(58-61). It is said to be as effective as chlorpromazine, but with fewer side-effects, with especially good results in paranoid states, and great usefulness in abstinence cures. Recent reports on fluphenazine (Prolixin) confirm its potency, especially in very chronic schizophrenia, but underscore its dangers: induced excitements are common and puzzling fatalities have been reported(62-64). A number of reports confirm(65, 66) the antidepressant action of isocarboxazid (Marplan), but it is now realized that it can also produce hepatic disease(67). Good results with thioridazine (Mellaril) are reported(68-70), especially in acute excitements, but several cases of pigmentary retinopathy have also been reported(71). Sherman(72) reports

favorable results, without toxicity, in the treatment of chronic schizophrenia with an anabolic steroid norethandrolene (Nilevar).

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PSYCHOSURGERY

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The Ministry of Health in England(15) reports on leucotomy in 10,365 patients between 1942 and 1954. Forty-six percent were discharged. Two findings were remarkable. Results were substantial in patients hospitalized 6 years and over, and there was often a long period between operation and discharge. Evidently something happens in these chronic patients (86% hospitalized 2 years or more) that favors the application of additional methods, after leucotomy has marked the turning point in therapy. Epilepsy followed in 1.3% and unfavorable personality changes attributable to operation in 3.1%.

Sargant(12) estimates that 15,000 patients have been operated upon in England, with better results from restricted operations.

Choice of patients is the vital factor. Brinegar(4) released 67%; Freeman(5) 45% in state hospital cases; Herner(6) 57%; Hirose(7) 50%; Altman and Friedman(8) 25%; Posada(10) 72%; Freeman(5) 85% in private cases.

Lewin(7) prefers orbital operations in depressed patients with anxiety, and cingulate resection in obsessionals. Sagebiel(11) relieves most schizophrenics with regressive EST but when this fails he finds that lobot-

omy relieved 18 of 20 patients with only 1 relapse. Scoville(13) had particular success with older patients.

Degenerations resulting from orbital resection were reported by Beck and Corselles(2) in the medial part of the dorsomedial thalamic nucleus, the uncinate fasciculus, and in some cases the fornix and the medial mammillary nucleus. Orchinik(9) found a trend toward greater social adaptiveness after thalamotomy. Removal of the frontal lobes in newborn monkeys by Akert, *et al.* (1), resulted in no learning deficit. Deep sleep, according to Wilms and Cole(16) brings to light some EEG abnormalities that are not present in lighter sleep.

CONCLUSIONS

Large series of cases reported after long follow-up are definitely encouraging. Skottow(14) states that tranquilizers have not supplanted psychosurgery, and according to Sargant(12) the physical methods of treatment have brought about a revolution in the prognosis for recoverable psychoses.

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CHILD PSYCHIATRY ; MENTAL DEFICIENCY

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CHILD PSYCHIATRY

Aid to Dependent Children (A.D.C.), formulated in the Social Security Act of 1935 to "keep the family together," currently maintains some semblance of family life for 2½ million U. S. children(1). Along with other social welfare measures, A.D.C. has come under increasingly violent attacks (witness the fiasco in Newburgh). It has been asserted repeatedly that A.D.C. "breeds illegitimacy" by making it "profitable." A thorough-going study of out-of-wedlock births in N. Y. C.(2, 3) demonstrated that parity is substantially the same for unmarried Negro and Puerto Rican mothers whether or not they are welfare recipients (the discrepant finding among unmarried whites is related to the frequency with which illegitimate white children are surrendered for adoption). Illegitimacy emerges as a consequence, not of "federal funds for bastardy," but of socio-cultural forces among the deprived. The unmarried mother and her child carry a greater risk for illness than the married within each ethnic group ; the health hazards of minority group membership are so extreme that the married non-white mother and her child is less fortunate than the unmarried white(3) ! These findings constitute a major challenge to preventive psychiatry(4) ; neuropsychiatric casual-

ties are associated with complications of pregnancy parturition and the neonatal period(5). The adequacy of current measures to rehabilitate children removed from deprived families has been questioned in several recent studies of foster care(6-8). If we are to be effective in guarding mental health, we must concern ourselves with community action to wipe out foci of social infection in the slums of our cities.

It has been somewhat unfashionable in recent years to attack symptoms directly and to rely upon symptom relief as a principal criterion of improvement ; preferred have been goals of insight and personality reorganization. This orientation is being challenged vigorously by therapists who base their methods upon Pavlovian and Hullian learning theory(9, 10). On the premise that neurotic behavior constitutes a learned unadaptive response subject to "desensitization," "reciprocal inhibition" and "extinction," specific therapeutic programs have been designed for the correction of phobic symptoms in children(11-14). Walton(15) has reported the successful treatment of a child ticquer through repeated evocation of his tics in "practice sessions" in order to build up "inhibitory drive" or "negative habits." Let it be granted that uncontrolled reports of successful outcome fail to provide convincing evidence for the superiority of these methods. Moreover, even if they are successful, it remains to be

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demonstrated that they are successful for the reasons given. These caveats notwithstanding, this new—or revived, if not new (16, 17)—approach merits careful scrutiny. Its rationale is clearly and simply stated; its steps are specified in detail; its results can be measured. Can we say as much of our more conventional psychotherapeutic methods?

In a series of beautifully executed studies (18-20), Lipton, Richmond and their co-workers have been pursuing the analysis of individual differences in neonates as manifest in autonomic reactivity. Significant contributions to methodology and data analysis have permitted the demonstration of individuality in responsiveness; yet to be tackled in longitudinal studies is the question of the perseverance of these autonomic patterns as significant characteristics of the child in his interaction with his environment. Bridger and Birns(21) have demonstrated the importance of simultaneous measurement of behavioral responses during autonomic studies in the neonate; quantitative behavioral observations permitted ordering of the autonomic data in new and meaningful patterns. On a more molar level, the longitudinal studies of Chess, Thomas, Birch and collaborators(22, 23) provide evidence for the existence of "primary reaction patterns" detectable as early as the third month of life. Concurrent information on environmental events (weaning, toiletting, etc.) that are conventionally described as "traumatic" revealed far less evidence of behavior disturbed in response to these events than standard theory predicts(24). Development is viewed as a transactional process, with individuality of child, parents and life experience determining the resultant personality. The publication of details of methods, findings and data analysis in a promised monograph will be eagerly awaited by all workers in this field.

In fundamental research at the animal level, Schneirla and Rosenblatt(25) have studied the interactions between the newborn kitten and the nursing cat. Their analysis of the nursing period as a triphasic sequence provides an important model of the developmental process. The findings argue strongly against a nativistic hypothesis of innate organization and in favor

of a "mosaic" of *interacting* maturational and experiential factors. In the world of nature, these factors, via evolutionary adaptation, are so regularly present and so precisely interdigitated as to *appear* instinctive but, by appropriate experimental manipulation, can be dissected into component processes. The panorama of a developmental hierarchy is emerging also in Harlow's longitudinal studies of unmothered macaque monkeys, at least two of which have now given birth to offspring that they fail to mother normally(26). Harlow is studying the development of affectional systems (infant-mother; infant-infant; peer-peer; heterosexual; mother-infant; adult male-infant) which can be seen as the outcome of social experience at each preceding level and which forge social ties that bind the troop, bonds that have been studied in the natural habitat of the higher primates as the forerunners of social life in early man (27).

At the clinical level, Dubo and co-workers (28), in a careful study of asthmatic children, found that symptoms of disturbed behavior correlated with family psychopathology but *not* the severity of the asthma. They conclude that psychiatric referral is not indicated for the asthmatic child unless he shows other evidence of disturbance. Pierce, *et al.*(29), have found that enuretics do not dream (as measured by the Kleitman and Dement criteria) at the time of wetting but are in a stage of deep sleep. Hallgren, *et al.*(29), were unable to find urethro-cystographic evidence of lower urinary tract abnormalities in 40 same-sexed twin pairs of whom at least one was enuretic. Ferster and DeMyer(30) have published an important study of 2 autistic children in whom behavior was shaped by operant conditioning methods. Although the complexity of the performance developed was quite limited (might these children have been brain damaged?), their analysis of the process and its theoretical feasibility suggests therapeutic measures centered about the use of social reinforcers to mold more adaptive behavior in psychotic children. Schonfeld(31) has provided a rich clinical study of gynecomastia, of interest to all who work with adolescents. Space permits only a final note of the several studies on bereavement dur-

ing childhood and its consequences for mental disorder (32, 33); more refined statistical analysis (with special reference to controlling for social class and the accuracy of diagnosis) will be required before the findings can be regarded as conclusive.

MENTAL DEFICIENCY

Three decades ago, Waardenburg (34), Bleyer (35) and Penrose (36), reasoning from the concordance of mongolism in monozygotic twins and its discordance in dizygotic twins and from its frequency of occurrence (too high for spontaneous mutation), proposed that the case distribution was compatible with the hypothesis of a chromosomal abnormality. In 1959, methodologic advances (tissue culture, colchicine to arrest mitosis at the metaphase, hypotonic solutions to contract chromosomes and disperse them, techniques of "squashing" cells) permitted genetic cytologists in France (37), England (38), and Sweden (39) to identify an abnormal aneuploid karyotype in mongolism (47 instead of 46 chromosomes). The extra chromosome has been characterized as a third #21 (in the Denver terminology); hence, the aberration is known as trisomy 21. The anomaly results from the failure of paired chromosomes #21 to segregate (non-disjunction) during gametogenesis so that one ovum contains two #21 instead of one, and a haploid number of 24 instead of 23. This is presumed to occur in the ovum rather than the sperm because of the correlation of mongolism with advancing maternal, but not paternal, age. The familial type of mongolism, on the other hand, has now been shown (40-44) to be associated with a total count of 46. On morphologic study, however, such patients lack a #15 but possess an extra #21 as a consequence of reciprocal translocation between #15 and #21. Thus, trisomy 21 is a constant feature of both clinical types, in the first by non-disjunction, in the second by reciprocal translocation. In two such pedigrees (42, 43), the phenotypically normal mother and grandmother of the probands had 45 chromosomes. The carriers were, however, balanced for chromosome content, possessing one #15 and one #21 and one 15/21 translocation product. The clinical condition of mongolism arose when an ovum with a

15/21 plus a #21 was fertilized by a normal sperm; this produced a zygote with two #21 plus a 15/21 or a "triple dose" of #21. Other congenital syndromes with multiple CNS and somatic anomalies associated with trisomy in the #17-#20 chromosome series have been described (45-48). This exciting and rapidly advancing field of knowledge has been the topic of several comprehensive reviews which the reader is urged to consult (49-51).

Waisman, *et al.* (42-54), have succeeded in rearing infant rhesus monkeys on an artificial diet high in phenylalanine. The animals exhibited severe defects in problem-solving ability, convulsions (3/6 animals), self-mutilation and bizarre cage behavior, simulating many features of phenylpyruvic idiocy in the human. Yuviler and Louttit (55) have reported impaired maze performance in hooded rats raised on phenylalanine rich diets; these animals also exhibited lowered brain serotonin. Woolf, *et al.* (56), have described two sisters with atypical phenylketonuria. One, who had biochemical changes but no behavioral deficits, had given birth to 5 normal children; one had a brief period of high phenylalanine excretion in infancy but went on to quite normal development. The second sister, mildly defective (I.Q. 83, history of convulsions) gave birth to a child who, despite exposure *in utero* to high blood levels of phenylalanine, developed normally. This pedigree, together with the other reported cases with normal intelligence despite the biochemical signs of phenylketonuria, indicates our ignorance of the fundamental mechanism producing CNS dysfunction when it occurs in the phenylketonuric.

Korsch, *et al.* (57), compared pediatricians' estimates of their patients' intelligence with psychometric scores on the same subjects; one-third of the estimates deviated from the test results by more than 15 points. Retarded children were consistently overestimated, the physically ill underrated. Significantly, the clinical judgments of the more experienced pediatricians proved to be no more accurate than those of house officers! One may hope that this documentation of the unreliability of the casual appraisal of intelligence will lead to more systematic reliance on competent psycho-

metric evaluation instead of *ex cathedra* judgments.

The interesting (and rare) Pickwickian syndrome (cardiorespiratory syndrome of obesity) has been reported in 4 children (58-60), all of whom exhibited mental retardation, a finding not true of adults with this disorder. The primary derangement appears to be alveolar hypoventilation with consequent hypoxemia, hypercapnia and secondary somnolence. A series of significant papers by Birch and his co-workers (61-63) have assessed the relation of time of life to the behavioral consequences of brain damage.

All in all, this has been a year of noteworthy progress.

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OCCUPATIONAL PSYCHIATRY¹

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Business-supported mental health centers, for the employees of supporting companies, were proposed by the president of the Connecticut Mutual Life Insurance Company, Charles J. Zimmerman, at his company's Forum on Mental Health in Business and Industry held recently(1). Mr. Zimmerman suggested: 1. That business and industry begin to deal with mental illness because it affects the welfare of business and the nation, and costs business firms billions of dollars annually. 2. As leaders of a free and business-oriented society, we have a very real responsibility to help conquer our nation's number one "social and economic problem." The ultimate cost of neglecting it will be far greater than the cost of solving it. 3. That committees of businessmen, psychiatrists and representatives from local mental health associations be formed to explore the possibility of joining action on

mental illness. 4. That a number of companies get together to hire full time psychiatrists who would treat employees referred by these companies.

BRIEF SUMMARIES OF ASSORTED ARTICLES

Frank(2) points out the severe psychological impact on a worker to be told he has incurable silicosis and must quit his job. The author feels the companies should not "retire" these men on a disability pension but keep them at a job free from any exposure to silica.

Childs and Sweetnam(3) studied the incidence of migraine in an industrial population of 4,700. Among the 1,607 persons who answered the questionnaire, there was an incidence of 4.9% for men and 13.2% for women. A family history of migraine was found in migraine sufferers six times more frequently than in non-sufferers. "It is generally believed that migraine affects mainly the intellectual and executive members of the community." This survey showed that the incidence was perhaps higher in this group than in manual workers, but by no means restricted to this managerial group. The managerial group more often than the manual worker had to quit work because of

¹ Appreciation is due the other members of the Committee on Occupational Psychiatry, APA, and American and foreign correspondents. Special acknowledgement is due to Dr. Walter Winslow, Dept. of Psychiatry, University of Cincinnati, School of Medicine for valuable help in the preparation of this article.

² 343 State St., Rochester 4, N. Y.

migraine attacks.

Miller, Watkins and Davis(4) conducted a study to test the hypothesis that employees injured at work are frequently dissatisfied with, or have a resentful attitude toward the job. Of 25 injured employees studied: 16 expressed resentment and/or dissatisfaction with the job; 18 felt that the physician's statement about the severity of the injury, poor prognosis, and possible convalescence period prolonged their period of convalescence. The authors concluded that resentment appeared to be a significant factor in the production, and/or continuation of the neurotic reactions seen among the injured employees studied.

Conte(5), discussing accident prevention quoted the following, "Accidents are not chance happenings—they have an emotional or psychological explanation" and the fact that 85% of industrial accidents are due to human failure, makes the following points:

1. Fear motivation—a poor motivation as most individuals feel it won't happen to him.
2. Education—successful if worker has "willingness to learn."
3. Rewards and responsibility—helpful for a small group who have personality needs that rewards and responsibilities meet.
4. Supervision—must be given by one capable of sympathy and yet strength.

Himmler(6) states: "It is well known that emotional problems occur in as many as half of the employees who come to the attention of industrial medical departments."

He states: 1. Personality factors antedating employment—difficult to evaluate at time of hiring but some of the most disturbed persons can be detected by skillful pre-employment interviewing and screening.

2. Psychological stress factors on the job—job factors may not only cause but uncover emotional vulnerability. The stresses may come from management policies and personnel procedures, from human relation practices of supervision, and from inter-employee relationships.

3. The psychiatric diagnosis—industrial physician reluctant to make psychiatric diagnosis because of implications thereof.

4. Recognition of treatment needs—the industrial physician must evaluate the "who—when—where—and—how" of treatment—

whether employee can be treated on job, needs time off for outpatient treatment, or hospitalization.

5. The readjustment phase—the recovered employee often uneasy and aware of the "cautious" acceptance of him by supervisors and fellow employees. The industrial physician has a responsibility to prepare other employees for the return of a convalescent employee.

Greenhill(7) groups the human factors affecting mental health and productivity in the family, in society and at the place of work. He considers: 1. Emotional development of individual—birth—mother's love (security)—environment—*family unit*. Family beliefs don't always agree with those of society, to which he must adjust. Problems of adolescence and adulthood.

2. Social milieu—society in urban and industrialized areas fragmented as compared to earlier, simpler societies. Lives split between home, work, and leisure.

3. Some changes in social attitudes—earlier marriages—children earlier—controlled families. Average young couple have strong desire for comforts of their own home—often impatient to achieve it—increase in indebtedness (mortgaged homes, cars, and furniture). Mothers often work—guilt and anxiety over fear of results on children. In U. S. 20% of families change residence annually ("Population of Migrants"). Author feels that "rootlessness, financial indebtedness, absence of parental authority and a frenzied seeking for status are major contributors to today's social pathology."

4. The work situation—large organization has many attributes of "mother figure"—affection converted into paychecks, holiday with pay, and fringe benefits. Identification of supervisor with archetype father is common. Competition with fellow employees seen as sibling rivalry. "Mental attitudes resulting in inefficiency can usually be traced back to formative years."

5. Psychodynamics of work place—dynamics of family often reflected in dynamics of work problems—attitudes to supervisor related to attitude of parental authority—struggles for promotion related to attitude of siblings—prejudices at work related to prejudices of family, etc.

In conclusion author emphasizes the ne-

cessity of understanding these personal and family situations.

Conte and Stubblefield (8) discuss the industrial physician and the depressed patient—depressive episode can interfere with ability to produce—personality changes such as antagonism and unfriendliness.

Authors describe the "Depressive Personality." Premorbid personality—individuals who generally take life seriously—lack imagination and humor—rigid patterns of behavior. They are often described as "slaves" to their work, home, children, *etc.* Often they lack charm and spontaneity, and are sometimes shy and seclusive, are usually respected for their conscientiousness, and their "meticulous devotion to duty." Their families are usually harsh disciplinarians, and perhaps uncompromising and punishing.

Symptomatology (two types—psychological and biological): These persons are often quiet, restrained, pessimistic, self-deprecatory, may complain of lassitude, feelings of inadequacy, discouragement and hopelessness, and may find it difficult to make decisions (melancholy mood). In more severe depression they may feel rejected, defeated—ideas of poverty—concentration difficult. They may be actually delusional—may be suicidal or agitated or both. The bodily changes are: anorexia, insomnia, changes in gastrointestinal activity and basal metabolism.

The psychological setting occurs early in the personality development. Families often have high expectations for the children, who may be motivated by fear of loss of love if they don't measure up—guilt over ambivalent feelings for mother, angry feelings then introjected, and if reactivated in adult life by loss of anything the patient holds dear, a depression may ensue.

Treatment includes evaluation of severity of depression, drugs—environmental manipulation, supportive psychotherapy for problem of hostility over feelings of isolation—and *guilt*.

Ross, *et al.* (9), found that "in most cases for whom the doctor's recommendations were carried out there was an improvement in adjustment which was still marked 4-10 years after the original consultation." (Forty patients seen—4 not as problems—7 did not

follow recommendations and 6 did not improve—29 followed recommendations and 21 improved.)

The authors described their attempt to identify emotional problems in industry early (before referral by plant doctor) and to save cost to industry by getting help for the employee when he is not so disturbed that he may need to leave his job.

The signs of early maladjustment are: 1. Repeated minor absenteeism, 2. Prolonged disability absenteeism, 3. Repeated accidents or "close calls," 4. Interpersonal difficulties at work, and 5. Frequent visits to the medical dispensary.

Wilson (10) feels that occupational medicine can play a major role in the control of absenteeism. The following characteristics of absenteeism were noted: 1. Women have twice as much absenteeism as men, but their absences are usually of shorter duration. The author considers this a "social" rather than medical factor. 2. The tetrad of frequent reporting to medical department, frequent short medical absences, frequent lateness to work, frequent changes of employment is more related to "emotional maladjustment" and "poor motivation" than to organic disease. 3. A small percent of any employee body is responsible for a rather large percent of time lost from the job. 4. Sickness records reflect the morale of the department more than its health status. 5. New employees set a pattern of attendance during the first 2 years and this does not vary regardless of their change in health. 6. Frequency is higher among young, short-service employees—suggesting poor effort of some young people, especially at the slightest suggestion of ill health.

The author then discusses procedures to correct this rather appalling absence rate. 1. Good pre-placement physical examination. 2. Preventive medical programs. 3. Immunizations.

Conclusions—The companies studied are trying to reduce absenteeism "by cooperating with supervisory personnel in understanding and handling medical absences, and by concerted effort in follow up on the small percent of employees who contribute heavily to the problem."

Pinner (11) focuses the problem of job placement of ex-mental patients on the "area

of the patients' needs rather than on the area of employers' attitudes." The patients dealt with are those just out of mental hospitals, who have few, if any, skills and who may still have behaviour patterns making work adjustment difficult. There are many failures and the author attempts to examine these. Some of the solutions might be: 1. Work therapy programs as have been used in VA hospitals. 2. Sheltered workshops. 3. A program similar to that of Fountain House, N. Y. (where a patient is placed for 2 months at a job geared to build confidence in his ability to work, then moves on to another "real" job).

McLean and DeReamer (12) summarize an article "The Accident Repeater" as follows: There is accident potential in almost every situation; two sets of factors—those in the environment and those in the individual—must be brought together for any accident to happen. Between the actual accident and the possibility of its happening is an interplay of many subtle factors. To understand all factors becomes of paramount importance in treating injuries and preventing future accidents.

They observe that past efforts to associate a large number of accidents wholly with personality characteristics and conscious and unconscious thought processes may have been misleading, although these factors may not be ignored; but we must give more attention to the total accident picture. In some cases psychologic investigation is indicated, but often the simple matter of moving a skid may be the more practical solution to accident prevention.

Finally, a highly related clinical problem is the temporary personality disorders that often result from accidents or near accidents, and this problem is emphasized.

Belenson (13) refers to the contributions in the past 40 years to the question of mental health (or illness) in industry. He discusses personality, mental mechanisms, and how these are so much wrapped up in what an employee feels and does. He remarks that setting up psychiatric services in industry is met by many resistances, mostly unspoken, and he points out that it sometimes takes 2 years for management to utilize the skills of the psychiatrist. His final comment is "Mental health programs in in-

dustry are good business."

Proctor (14) estimates that 20% of all workers exhibit some degree of abnormal mental activity. He discusses the qualifications of an industrial psychiatrist and the possible functions he may assume.

Mention should be made of a series of 3 articles on Mental Health in Industrial Practice by Knight and Baird (15, 16, 17): 1. Mental Hygiene Among Employees, 2. Early Detection of Emotional Disorder, and 3. The Part Time Psychiatrist in Industry. The article by Terhune (18) is geared to the executive who may not only have personal problems but who may get into emotional difficulties directly related to the pressure of his work. The executive is described as having a "low happiness index," as prone to alcoholism, depression, and marital discord. Physically he is often "below par" as a result of insufficient regular exercise, not enough sleep, unwise eating habits, and excessive smoking and drinking. The author describes "the executive type personality—overmobilized, ambitious, driving, dynamic, and overbearing." He tends to "squeeze out all human reactions" and this frequently is noted at home as well as at work and may manifest itself by impotency and marital inadequacy.

Some companies have used the services of psychiatrists and provide for "an emotional check-up" of executives. Those referred for the check-up were: 1. Individuals who already were emotionally or physically ill but wouldn't admit it. 2. Individuals having difficulty in business or marriage. 3. Individuals having trouble with interpersonal work relationships.

The company, in most cases, paid the expense of the examination but did not receive a report from the psychiatrist. The check-up was done in a 6-day period of intensive investigation in hospital. Sources of information were close business associates, wife, physician (all confidential). The author describes in detail the daily routines of tests and activities over the 6-day investigation.

Findings: The typical executives tended to put up a good front—had no financial worries, were status conscious, wanted to be regarded as "simple men, but complicated personalities." They were brilliant,

hard working, and had good judgment; had little interest in the arts, and were "fundamentally lonely." Sex and home meant little to them, and many were impotent by age 55. None were homosexual, most drank too much, and most took sedatives at night (only). Many came from underprivileged backgrounds, and had little feeling of what "love" really was. Psychological studies indicated schizophrenic tendencies in a few; they were not dreamers, not manic-depressives, mood was stable, but "quite a few" showed paranoid tendencies. They resented authority and were not good team workers.

VOCATIONAL REHABILITATION

On April 27, 1961, the annual meeting of the President's Committee on Employment of the Handicapped in Washington, D. C., for the first time arranged a panel discussion of the employment problems of the mentally restored and the mentally retarded. The panelists were Dr. Jack R. Ewalt, Massachusetts Mental Health Center and executive director of the Joint Commission on Mental Health and Illness, Dr. Gunnar Dybwad, vice chairman, Committee on the Mentally Handicapped, and executive director of the National Association for Retarded Children, Mr. John H. Dingle, E. D. duPont de Nemours Co. Mr. Maurice J. Reisman, State Supervisor of the Pennsylvania Bureau of Vocational Rehabilitation, and Dr. Ralph T. Collins, chairman, Committee on the Mentally Handicapped moderated the panel.

FOREIGN CORRESPONDENCE

Dr. M. Hausner (19) reports on the Congress on Mental Hygiene held in Prague in Oct. 1960. Some titles of papers were: 1. The Place of Mental Hygiene Within the Frame of the Work Hygiene. 2. Mental Hygiene and the Work Relations of People Within the Socialist Society. 3. The Question of Mental Health and Mental Disturbances of Industrial Workers. 4. Exploration of Frequency of Mental Illness in Agricultural and Industrial Population. 5. Mental Hygiene of White Collar Workers. 6. Mental Hygiene and Occupational Illness. 7. Our Experiment with the Valuation of Fatigue of People with Prevailing Brainwork. 8. Psychological Aspects of Fatigue

and Their Importance for Mental Hygiene. 9. Some Psychological Aspects of Mental Hygiene in Industry and Transport. 10. The Prospects of Occupational Psychiatry.

At the World Federation of Mental Health meeting in Paris in Sept. 1961, Dr. A. M. Scott, Medical Officer, Philips, Lt. Croydon Group, England, in a paper entitled "Psychoneurosis and Modern Industry" stated: The two basic factors in the aetiology of psychoneurosis are heredity and adaptation. Thus, as industry speeds in ever increasing modern technological advance, the hereditary nature of stress disorders will ensure a concomitant increase in a population sensitive to these conditions. In the words of Prof. Greenhill, "Today's social pathology reflects the ever increasing gap and time lag between a society's culture and its adaptation to technological advances." We would be wise therefore to assume that the manifestations of social pathology will increase and not lessen.

Medicine is likely to increasingly become a social science, and less and less of an intimate contact between two individuals, the doctor and patient. The industrial physician by reason of his intimate contact with industry and an appreciation of its very rapid technological advance, is in an unique position to play his part in company with his professional and lay colleagues in the achievement of this social goal. This goal must be to keep individuals adjusted to their environment as useful members of society or to readjust them when they have dropped out as a result of illness.

BOOKS AND JOURNALS

Grune & Stratton, Inc., have announced the publication of another book in their Modern Monographs in Industrial Medicine Series, entitled *A Manual of Neurology and Psychiatry in Occupational Medicine* by Ralph T. Collins, M.D.

Dr. William P. Shepherd has recently authored a book entitled *The Physician in Industry* published by McGraw-Hill Book Co. in which one of the chapters is entitled "Mental Health in Industry."

The Newsletter of the Committee on Occupational Psychiatry (APA) under the able editorship of Dr. Alan McLean now appears four times each year and has proved most worthwhile.

In conclusion, I quote a definition of work by the author of this review which appeared in *Think Magazine*, Feb. 1961. The Work that men do is an essential part of their lives, not mainly because by it they earn bread but because a man's job gives him stature and binds him to society. The worker who is happy in his job, with confidence in his management and cooperative relations with his co-workers, will spread his contentment throughout the community.

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SOCIAL PSYCHIATRY

MAX PEPPER, M.D., AND F. C. REDLICH, M.D.¹

THE DEVELOPING SUBSPECIALTY

As the field grows, increasing attention is being given to defining its boundaries. Ruesch (31) provides a comprehensive definition of social psychiatry. He divides its concerns into seven major areas : 1. Population surveys ; 2. Investigations of culture and its relationship to psychiatric conditions ; 3. Studies of culture change ; 4. Studies of biologically determined social groups ; 5. Studies of special situations ; 6. Studies of personality, community, and their interaction ; and 7. Social aspects of treatment. He points to some of the difficulties of social psychiatric research and training which are characteristic for all interdisciplinary activities and pleads for special training programs after the usual residency training, as well as outlining a more sys-

tematic approach throughout the general psychiatric residency program.

SOCIAL THEORY

Those psychiatrists who might be interested in a comprehensive reader of the classics in modern sociological theory are referred to the two-volume *Theories of Society* (26). Erich Fromm's treatise on *Marx's Concept of Man* (10) elucidates the concept of alienation and also makes available in English translation, hitherto unpublished in this country, important writings of Marx which deal with psychosocial theory. Of interest in this connection is a critical examination of Fromm's work by Schaar (32).

EPIDEMIOLOGY

The Milbank Memorial Fund conference on causes of mental disorders has been published in a series of papers during the

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past year. These provide an extensive review of epidemiological work, with excellent bibliographies. In one of these papers, Dunham(7) examines hypotheses which have been advanced to explain findings of ecological and epidemiological studies of mental disease. Although the relationship between social factors and the frequency of certain mental disorders is quite evident, the causal meaning of these associations is yet uncertain. Reid's paper (28) elegantly reviews the literature on precipitating factors and concludes that the field lacks any sustained and systematic approach to this problem. Two papers in this series deal with the epidemiological evidence for causal links between mental disorders and physical damage to the fetus and to the brain after birth(16, 22).

Other symposia, comprising the proceedings of the American Psychopathological Association on *Comparative Epidemiology of Mental Disorders*(12), and *Field Studies in the Mental Disorders*(34), reflect the increasing interest in this area and supply ample stimuli for further research.

Langner(20) gives another preview of the eagerly awaited definitive volume report on the Midtown Study in New York City. Pasamanick(27) published prevalence data from Baltimore which find one in eight in the population at a single point in time to be suffering from psychiatric disorders. Of this urban population 2.6% were found to be severely or totally disabled by mental or emotional difficulties. Jaco's study(15) of the inhabitants of Texas subjects its data to systematic and rigorous analysis. Some of its findings regarding incidence are significantly variant from those reported in other studies. However, the limitations in generalizing from data concerning only known and treated cases remain (even though this study extends the scope of ordinary hospital studies by also including cases in private practice). Brill and Storrow (4) confirm some of the findings of Hollingshead and Redlich about the relationship of social class and psychiatric treatment. Hollingshead(13) reviews issues in the epidemiology of schizophrenia from the viewpoint of a sociologist. The second volume of the Stirling County Study by Hughes, Leighton, *et al.*(14), presents data

establishing the relationship between psychiatric illness and symptom patterns on the one hand and social integration—disintegration in communities on the other.

SOCIAL SYSTEMS AND CULTURE

The strong interest in family research and therapy continues. Fleck(8) summarizes the explorations of families with schizophrenic patients by the Lidz-Fleck research team, and presents hypotheses and clinical data about the significance of parental types, parental interactions, sociocultural isolation, and sexual problems for the genesis of schizophrenia. Cumming(6) reviews the literature on research linking mental disorder with family characteristics and points out that the questions asked have often been too imprecisely stated to make research productive of answers. A monograph collection edited by Rubin(30) contains articles concerning sociocultural factors in mental illness, and includes the cross-cultural inquiry by Wittkower, *et al.*, into the symptomatology of schizophrenia. The study which Rigney and Smith(29) present of San Francisco's "beat" colony is an interesting exploration into the society of an "alienated" subculture. Morris, *et al.*(24), empirically explored the values of psychiatric patients and came to the conclusion that these were, in general, no different from those of normals in the same culture. However, though it could not be said that psychiatric patients do not live in accordance with their values, it would seem that they cannot manage to live with the conflicts arising from various values. Murphy's(25) extensive review of the literature on social change in relationship to mental health shows that non-Western peoples undergoing Westernization show an increase in identified psychopathology. It is not clear, however, whether this is due to an increase in prevalence or to improved facilities for diagnosis and treatment or other factors. An account of current problems and sociological implications of mental disorders in Japan is given by Tokuhata and Stehman(33). Of the reports documenting travel studies and giving accounts of developments in psychiatry around the world, the publications by Barton, *et al.*(1), and Bellak(2) on European psychiatry, and Kline's(18) on psy-

chiatry in the Soviet Union, deserve mention.

Lifton's imaginative book(21) analyzes "brainwashing" in a large number of Westerners and Chinese who experienced thought reform in China, and who were later able to leave for Hong Kong, where he interviewed them intensively. His conclusions are of great theoretical and practical significance and have aroused the interest of behavioral and political scientists as well as psychiatrists. Freeman(9), in exploring attitudes toward mental illness among relatives of former patients, concludes that education *per se* rather than social class as a whole accounts for the differences which he observed. Ashley Montagu, in a general address(23), stresses the need to explore the "mental illness" of cultures. Krapf(19), however, advocates that psychiatrists resist attempts to make of social psychiatry the cornerstone of a system of social reform and pleads for the social psychiatrist to beware of his limitations.

VARIOUS APPLICATIONS

An important book containing much social psychiatric material is the volume on *Prevention of Mental Disorders in Children* (5). Meriting attention is an account of a group health insurance scheme with provisions for private psychiatric care(11). Bierer(3) points to the need for operational research in connection with plans of the British Ministry of Health to close 75,000 beds in existing mental hospitals and replace them with community-based facilities.

We would urge that every psychiatrist in the United States read the important and far-reaching report and recommendations of the Joint Commission on Mental Health and Illness(17).

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CLINICAL NEUROLOGY

W. H. TIMBERLAKE, M.D.¹

Anatomy : Van Crevel (15) has studied painstakingly the degeneration of the fibers of the cat's pyramid 3 days to 6 months after complete or partial decortication. These fibers are almost purely a projectional path from frontal, precentral and postcentral areas.

Klingler and Goor (44) have described in detail the connections of the amygdala and anterior temporal cortex in man.

Electrical recordings from dorsal root filaments from C₁ to L₄ of cats while hairs were moved, indicate a central area of maximal potential and a fringe area of weaker discharge with a shifting overlap from rostral to caudal within each filament as well as each root. Not all dermatomes reach to the midline (35).

By a number of techniques, Waksman has demonstrated a blood-nerve barrier in the vascular endothelium of rabbits preventing the passage of negatively charged colloids. It may explain the limitation of Guillain Barre and diphtheritic polyneuritis to the spinal roots and ganglia (88).

Cerebrovascular Disease : Kinking of the internal carotid artery in 16 of 1000 angiograms seemed related to recurrent cerebrovascular episodes, particularly when rotation of the neck produced symptoms (59). Rotation and hyperextension of the neck aggravate vertebral artery ischemic symptoms and caused "drop attacks" in which the legs give way without unconsciousness (81).

In 109 cases of cerebral infarction and hypertension where cerebral hemorrhage

was excluded by post mortem examination, 37 had a fall in blood pressure because of operation, myocardial infarction, infection, hypotensive treatment, etc. In absence of such complications, the blood pressure was unchanged by the stroke. Hypertension deserves more consideration in the mechanism of infarction (48).

At 100 consecutive post mortem examinations of patients over 50, the carotid or vertebral was completely occluded in 11 and more than half occluded in 40, both usually without symptoms. The incidence was greater with hypertension. Ninety-three percent had even more marked extracerebral atherosclerosis (54). This perhaps explains why the immediate and 3-year prognosis is better in cerebral thrombosis before age 50 (3), and the 3-year survival is worse by two standard deviations if blood pressure is over 110. Previous strokes do not affect the outcome of an attack, but make subsequent strokes more likely (53).

Transient rises in blood pressure seemed to be part of the stuttered onset of symptoms of basilar artery infarcts in three patients (64).

Carotid artery compression in 280 patients without and 160 patients with cerebrovascular accidents gave no evidence that a hypersensitive carotid sinus plays an important role in transient ischemic episodes. Because of side effects (embolism, asystole), use of the test should be limited (28). EEG changes occurred with compression of the carotid opposite to a thrombosed internal carotid, middle cerebral or middle meningeal artery (84).

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Cerebral angiograms were done in 38 patients over 50 with 4 of the subsequent 16 deaths attributable to the study. The vital signs should be stable before doing an angiogram, and a minimum of dye should be used(20).

Open exposure injection into the brachial artery avoids the danger of trauma to diseased neck vessels and the danger of a hematoma in the neck. It filled two-thirds of the cervico-cerebral circulation consistently and gave no mortality or morbidity in 200 adults and children(45).

Nausea was the only side effect when 5 ml. of 5% fluorescein was rapidly injected into the antecubital vein, and two observers timed its appearance in the retina. (Normal time is 5 seconds with 0.5 second difference between the eyes)(17).

In 3 controlled trials, anticoagulants have proved hazardous and without clear benefit(34, 36, 91). Even in "progressing stroke," the principal advantage seemed to be protection from death by pulmonary infarcts(11). Enzymatic thrombolysis in animals is still in the experimental stage(39). Surgical excision of thrombosed carotid or vertebral arteries in the neck is successful only in the most skilled hands(74).

Careful studies indicate that intravenous acetazoleamide (Diamox) has a more marked and prolonged beneficial effect on cerebral blood flow than 5 minute inhalation of 5% carbon dioxide. It can, of course, be given by mouth. Renal function should be adequate(23).

McKissock has conducted a carefully controlled trial of surgical and conservative treatment of 180 unselected cases of primary intracerebral hemorrhage. Mortality was 51%, and no group was better with surgery. Neurological symptoms were less important for prognosis than the level of consciousness(57).

Unilateral dilated pupil, abducens paralysis and homonymous hemianopsia lateralized the lesion correctly 90% of the time in 389 cases of acute subdural hematomas. A tentorial pressure cone is apt to produce misleading ipsilateral pyramidal signs(70). Twenty-one of 50 patients with chronic subdural hematomas had seizures which, if unilateral, were usually contra-

lateral to the hematoma(14).

Trauma to the back of the head of a child or adolescent may cause an extradural hematoma in the posterior fossa. Its course is slow like a subdural. Pressure on the cerebellum and later on the pons and medulla causes symptoms which usually are not lateralized. Cranial nerve palsies and hyperactive deep reflexes usually appear later. A lumbar puncture is obviously hazardous(37).

Metabolic Diseases: Femoral neuropathy was related to diabetes in 14 patients, polyarteritis nodosa in 3 and metastatic disease in 2. It was sometimes precipitated by lifting heavy weights with abducted thighs(9).

The incidence of diabetic neuropathy increases with age and duration of diabetes. Retinal, renal and leg complications are more frequent in diabetics with neuropathy. Microscopically, Fagerberg found intraneural vessel lesions like those of hypertension with hyalinization, stenosis and PAS positive reactions. Subjective symptoms generally diminished in a few weeks or months(25).

The neuropathy may appear when only the glucose tolerance test is abnormal, and it is probably a manifestation of a basic biochemical fault(24, 71). In diabetics under 40, raise threshold for vibratory perception in nerves rendered temporarily ischemic was reversible with insulin(83). Pyruvate metabolism is not abnormal in diabetic neuropathy(86).

Both intra- and extra-cellular water increase with water intoxication and its symptoms of confusion decreased deep reflexes and seizures; but recovery correlated best with restoration of intracellular osmolality. Experimental study indicates that lumbar punctures and barbiturates are not helpful and may be hazardous. Mannitol and urea can restore neurological function, even though Na and Cl are low, if total body Na and Cl are normal or excessive (congestive failure, nephrosis, cirrhosis)(21).

In 13 patients with acute uremia(49) lassitude proceeded to disorientation, confusion and coma. During recovery, patients might become euphoric or depressed and some were paranoid. Cooperation was

poor. Attention span was short. Recall of digits backward was the last of the formal tests to become normal, but behaviour still continued inappropriate. There might be evanescent nystagmus, facial asymmetry, dysarthria, dysphagia and difficulty protruding the tongue. One patient had an attention field defect. As with other ill patients, there was generalized weakness, but 2 patients had transient weakness of one limb.

Fasciculations increased with the increased BUN and cation imbalance. Myoclonus and asterixis were most common at the stage of confusion. Wasting began in the vastus medialis and the wasted muscles were tender. The reflexes usually increased, then decreased, and often were asymmetrical. Five had dimpling of muscles on percussion. One patient had dysaesthesias, but sensation was normal as far as testable. During anuric or dysuric stages, 5 had convulsions, usually generalized, but 1 had a visual aura. In EEG's, alpha activity decreased and slow activity increased. No lumbar punctures were done. Fluctuations of symptoms and signs seemed to be correlated with the rate of change of electrolytes, rather than their specific level.

The current understanding of porphyria has been reviewed by Watson(89) who recommends testing of feces as well as urine. Acquired porphyria has occurred in man and rats as a result of hexachlorobenzene intoxication(68).

Twenty-five patients with myxedema had symptoms and signs of involvement of cerebrum, cerebellum, midbrain, nerves and muscles. Prolonged relaxation of deep reflexes did not correlate with severity of the myxedema. All symptoms cleared with treatment, except the ataxia of one patient who had been severely ill(67). Severe chronic thyrotoxicosis may cause a proximal myopathy without other neurological abnormality(92).

Infectious Diseases: In 358 cases of paralysis, polio virus was more often confirmed in those with severe weakness. Non-polio virus was confirmed with those with less weakness, and in none of the severely paralyzed. Polio virus was less often confirmed in those previously immunized(51).

In one series of 100 cases of paralysis, proved polio existed in only 3 patients who had had 3 injections of Salk vaccine (58). Consistent, excellent immunization with orally administered living attenuated polio virus can be obtained in infants over 2½ months old(69).

Coxsackie viruses cause aseptic meningitis, paralysis and rashes, pneumonia and myocarditis. Type A virus affects skeletal muscle and often coexists with polio. Type B interferes with polio virus and affects the central nervous system, viscera and causes focal muscular lesions(46). In a randomized study of 32 patients with measles encephalitis, steroids were of no benefit(94).

In a prospective study of 178 cases of maternal rubella, congenital heart, ear and eye defects were common, but there was only one mentally retarded child(72).

Prognosis in tubercular meningitis has not seemed to be affected by dropping the use of intrathecal streptomycin or adding steroid. Extrameningeal tuberculosis, except miliary, makes a poorer prognosis as do greater age, higher cerebro-spinal fluid protein and low chloride(90).

Procaine or benzathine penicillin G were used to treat over 35,000 syphilitic patients without difference regarding reactions, though the larger the dose and longer the treatment, the more reactions occurred. There were no deaths(8). Among patients with biologic False Positive serologic tests, there is a higher incidence of sensitivity to penicillin(12).

Subcuticular nodules, characteristic and important for diagnosis, were present in 54% of 450 cases of cerebral cysticercosis. Occasionally, the swollen cysts caused muscle pain and rarely, myopathy. They calcified in 5 to 19 years. Only 1 patient had cerebral calcification before muscular. The most common causes of death were status epilepticus and intracranial hypertension. Ninety-two percent had seizures, usually controllable with anticonvulsants. Surgical removal of cysts for focal epilepsy was seldom of value. Decompression helped hydrocephalus, but only if it was non-obstructive(19).

The best treatment of cryptococcosis is Amphotericin B, 1.2 mg. to 1.8/K/day, intravenously on alternate days, gamma

globulin intramuscularly twice a week and a diet low in thiamine. Amphotericin is not antibacterial and so one must be careful of bacterial complications in giving 0.7 mg. intrathecally on alternate days until the cerebral spinal fluid is sterile(47).

Basal Ganglia Disease: In his Croanian lecture, Denny-Brown has analyzed the relation to diseases of the basal ganglia to disorders of movement(18).

Parkinsonism has been described in subacute encephalitis of van Bogaert(65). The neuropathologic changes found in the Parkinson-Dementia complex on Guam are now described in 22 cases of the amyotrophic lateral sclerosis on Guam, suggesting the two are members of a single disease entity(52). Canter, *et al.*(10), devised scales for rating disability of Parkinsonian patients in walking, dressing, hygiene, eating and feeding, and speech, with 3 people usually rating 26 patients, with a 0.95 coefficient of concordance. Wach and Boshes(87) have applied an accelerometer to the analysis of Parkinsonian tremor.

Doshay(22), England and Schwab(25) have reviewed the treatment of Parkinsonism. The latter authors list as contraindications to surgical treatment: severe bilateral disease, mental deterioration or confusion not due to drugs, lower cranial nerve symptoms, physiologic age over 64, and rapid advance of the disease. Results are poor when speech is weak or dysarthric, when swallowing and breathing are poor, when there is micrographia, weakness or festination indicating widespread brain damage.

The toxic effect of indirect reacting bilirubin in jaundice of prematurity ranks second among causes of athetosis; in severe cases there is spasticity and sometimes ataxia. Exchange transfusion should be made before neurological symptoms appear and may be more effective if albumin is given first to absorb the bilirubin(33).

Extrapyramidal symptoms occur in 35% (chlorpromazine) to 60% (trifluoperazine) of patients treated with "tranquilizers." The piperazine radicle increases the side effects as does halogenation, particularly with fluoride. Symptoms are more generalized, severe and bizarre in children under 15 and are restricted more to face, neck and arms in older patients. Dys-

kinesia appears first, akathisia next and Parkinsonism last. The latter is often preceded by lack of spontaneity. Antiparkinson medicines such as Kemadrin or sedatives relieve the symptoms and may prevent their recurrence without the "tranquilizer" being stopped(1, 66).

Demyelinating Diseases: Current information about the demyelinating diseases has been reviewed by Lumsden(50) and Miller(61). Gamma globulin was increased more than 13% in 88% of all cases of multiple sclerosis, twice as often as other laboratory tests were abnormal(80). The active phase of multiple sclerosis is associated with an increase of beta-2A, beta-2M and gamma globulins in the serum, and beta-2A and gamma globulins in the cerebrospinal fluid(13).

Fifty-one patients with optic neuritis were followed up after 2 to 15 years. Forty-three have reading vision in the affected eye, 25 have optic atrophy, 6 have temporal pallor, 21 are normal. Seven have obvious multiple sclerosis, 13 have probable multiple sclerosis, 7 have toxic amblyopia and the etiology of 25 was undetermined, none have brain tumor(40). Steroids and vasodilators do not significantly affect the recovery from acute optic neuritis(31).

In controlled trials, multiple sclerosis was not improved by Prednisone or aspirin(62), tolbutamide(27), or intrathecal tuberculin, and the latter was associated with almost twice as many exacerbations(43).

Progressive multifocal leukoencephalopathy occurs in chronic diseases where there is relative immunologic unresponsiveness and its pathology is consistent with an atypical virus infection. The affected adults have a 3- to 4-month course of gradually progressive diffuse but asymmetric neurological symptoms. Cerebrospinal fluid is normal in half, and has a slight increase of pressure, white blood cells or protein in the others. All EEG's have diffuse slow wave activity with asymmetries corresponding to the structural abnormalities. Three pneumoencephalograms, 1 angiogram and 1 arsenic scan test were normal. Pathologically, the multiple demyelinating lesions affect the cerebrum and

brain stem, but spare the cord. Oligodendroglia are enlarged and densely basophilic, often with eosinophilic intra-nuclear inclusions. There are giant astrocytes, and cerebellar granule cells have enlarged nuclei (77).

Tumor: Analyzing 250 cases of meningioma, Gassel (29) found that false localizing signs are apt to develop suddenly or rapidly and be due to large tumors, *e.g.*, those in silent areas. Mild cerebellar or pyramidal signs appearing late in the course of illness often were falsely localizing. Craniopharyngiomas should be considered in an older person with symptoms suggesting compression of the chiasm, particularly if they are asymmetric and fluctuate (79). Of 30 patients whose pontine gliomas were treated with 4000r, 4 survived 5 years (76).

Cranial and Peripheral Nerves: In hydrancephaly, the optic disc is white with few or no retinal vessels. The pupils react to light and there are spasms of the lids to light without evidence of sight. This indicates that in children, the latter is a subcortical reflex (38).

In testing for visual field defects after brain damage, pseudoisochromatic plates are sensitive to errors of lateralized pattern, color perception, visual extinction, visual fluctuation and figure-ground discrimination (82).

Ocular dysmetria is usually greater in the direction of the lesion, but may be the reverse or occur unilaterally with bilateral disease. Skew deviation with one eye hypertropic usually means unilateral disease, but of either side (32).

Ghent illustrates 4 abnormal courses of the lateral femoral cutaneous nerve which may cause meralgia paraesthetica and recommends conservative treatment if the onset is at rest or follows anaesthesia or pregnancy (30). In another series of 50 cases, 25% cleared spontaneously, but surgical neurectomy was necessary in some of the others (5).

A low lumbar or sacral disc protrusion may cause intermittent claudication of the cauda equina (4).

Motor nerve conduction velocity may be impaired in axonal disease, *e.g.*, neuropathy as opposed to disease of the cell body, such as polio (41).

Muscle Diseases: In myasthenia gravis, electronmicrographs indicate extensive disorganization of endplate structure with shrunken axon filaments, a decreased number of secondary synaptic clefts which are widened and clubbed, and a decreased number of mitochondria (93).

In biopsied muscle, the occurrence of microendplate potentials of normal amplitude and time course, and of endplate spots sensitive to acetylcholine, make a postjunctional defect unlikely (16). Pharmacologic considerations suggest the defect in transmission is at the motor nerve terminal, rather than the synapse (78).

The first evidence of smooth muscle involvement in a myasthenic patient was a greater mydriasis and very poor response to accommodation on the side of more external ophthalmoplegia. It improved markedly with neostigmine (2).

Of 51 myasthenic infants and children, 10 had transient neonatal myasthenia unrelated to the duration and treatment of their mothers' myasthenia. Six had persistent myasthenia from birth, 35 persistent myasthenia after they were 1 year old (75% were over 10, mostly girls). Of 21 who had thymectomy, 6 had a remission, and 12 improved. One patient had a complete remission after radiation of the thymus (63). Bonaretti (6) suggests using optokinetic nystagmus to measure response to treatment.

Over 4 generations, 11 members of a family of 43 had periodic hyperkalemic paralysis with myotonia. Symptoms were greater in face and tongue, and improved with hydrochlorothiazide (60).

Miscellaneous: Bilateral motor system dysfunction above the medulla causes Cheyne-Stokes respiration by increasing respiratory sensitivity to CO_2 without altering the CO_2 threshold. Anoxemia drives ventilation during the late respiratory decrescendo, despite low PaCO_2 levels (7). During hyperpnoea, circulation time across the brain decreases, cerebro-spinal fluid pressure increases, and mental function and EEG return to normal (42). Lesions of the medial pontine tegmentum lower the CO_2 threshold and cause central neurogenic hyperventilation. In ataxic breathing, progressive CO_2 retention impairs CO_2 sensitivity and there may be abrupt respiratory

arrest treatable by artificial respiration(73).

In 4 cases, hypocapnea perhaps due to hyperventilation precipitated cerebral syncope(56). Post-micturition syncope follows the period of strain and seems due to cardiac standstill and subsequent arrhythmia, perhaps resulting from acetylcholine production during phase IV of the Valsalva maneuver(75).

McFie(55) has reviewed the psychologic tests of 4000 patients referred with localized lesions and has tried to relate specific findings to lesions of particular lobes.

The Queckenstedt test may be unreliable with obstruction of cerebro-spinal fluid pathways as low as C₆ because distension of the extradural spinal veins transmits a pressure rise as low as C₆₋₇(85).

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ALCOHOLISM

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The North American Association of Alcoholism Programs was founded in 1949 as a voluntary organization of official alcoholism control agencies offering a medium for

inter-agency and interdisciplinary communication of all matters relevant to the administration and professional work of such agencies. Its membership consists of the

duly appointed representatives (usually the administrative heads) of state and provincial alcoholism control bodies.

This Association has set up The Co-operative Commission on the Study of Alcoholism, composed of 25 members. Aided by the Association's membership but free of its control, the Commission is wholly responsible for setting general policies and acting as the responsible trustees for all monies secured. Dr. Nevitt Sanford, formerly Professor of Psychology at the University of California, has been appointed General-Scientific Director.

Dr. Robert Felix, Director of the National Institute of Mental Health, has announced a grant of \$1,100,000 to the Commission for a 5-year study. The Commission has contracted with Stanford University and has committed the bulk of its funds to the Institute for the Study of Human Problems at Stanford.

Dr. Sanford has said, "... our primary plan, as far as alcohol is concerned, is not to do research but to undertake this general task of surveying what is known, attempting a fresh conceptualization of the field, and possibly coming up in the end with judgments about what ought to be done next" (13). Later on the Commission will begin research, as the most fruitful areas become apparent.

Yale University has announced that the Yale Center of Alcohol Studies, established at Yale about 20 years ago, will be relocated at Rutgers, the State University of New Jersey, at the Rutgers Center of Alcohol Studies. A 6-year grant of \$927,000 from the National Institute of Mental Health will cover the basic budget and aid the transfer, which is to be substantially completed by mid-1962. The main functions of the Rutgers Center will include research, teaching, documentation of studies, and publications, including publication of *The Quarterly Journal of Studies on Alcohol*.

In a medical and laboratory evaluation of thyroid function in 33 alcoholic patients, Goldberg(2) found 21 (64%) thyroid deficient. Impressive results followed treatment with desiccated thyroid or L-triiodothyronine both in "improvement of hypometabolic symptoms and drinking patterns." Hypothyroid patients curtailed their

drinking better than did euthyroid patients. The author postulates a relationship between alcoholism and thyroidal function.

In a personal communication, Goldberg has stated that the instances of hypothyroidism in chronic alcoholics have been confirmed and extended. "Among 100 chronic alcoholics investigated in Worcester, Mass., 47 were found to be unequivocally hypothyroid."

In a second article(3) the treatment of 12 acute alcoholics by intravenous L-triiodothyronine is compared with 8 untreated acutely intoxicated controls. The treated group showed an initial blood alcohol level of 338 mg. per 100 ml. and the 8 controls about the same (321 mg. per 100 ml.). The mean rate of metabolism of alcohol was twice as rapid (32.1 mg. per 100 ml. per hour) in the treated cases as in the controls (15.0 mg. per 100 ml. per hour). The use of intravenous injections is emphasized; and an unpredictable rate of absorption from oral administration is thought to explain the poor results reported by others. Patients with known coronary-artery disease or with adrenal deficiency should not receive this treatment. In one patient with delirium tremens and low blood alcohol (25 mg. per 100 ml.), the auditory and visual hallucinations disappeared within one hour after intravenous L-triiodothyronine and did not reappear.

On the other hand, Prieto, *et al.*(11), have reported that rats maintained with stock diet when given a choice between water and alcohol solutions drank only very slight amounts of alcohol. When thyroid powder was added to the diet the daily alcohol intake jumped from the basal average of 0.05 to 0.22 ml. per 100 g. during the third week of thyroid treatment. When thyroid was discontinued, the alcohol intake returned to normal within two weeks, findings contrary to those of Richter(12) and those reported above.

Since a previous study in humans indicated that chlorpromazine elevated the blood alcohol level above that expected from a standard dose of alcohol, a second study(15) was made to determine the mechanism of this evaluation. Rabbits were used since their responses are the same as those of humans. It was thought that the ef-

fect on blood level might be due to the autonomic effects of chlorpromazine on the gut. With atropine, reserpine and a ganglionic blocking agent the effects of chlorpromazine on the gut were imitated without significant alternation. Central nervous system depression did not alter blood level of alcohol. Finally, the blood level of two other drugs which were absorbed by simple diffusion, as is ethanol, were not affected by pretreatment with chlorpromazine. Therefore it was concluded that the effect of chlorpromazine resulting in an increased blood level of ethanol was due to an inhibition of the metabolism of alcohol. Substantial evidence was found from kinetic studies with the isolated alcohol dehydrogenase to confirm this conclusion.

Good results with many of the newer drugs continued to be reported. After use of LSD-25 in the treatment of 61 alcoholic patients with poor prognosis, 30 patients were much improved(6).

In 50 patients treated with chlordiazepoxide (Librium), 21 improved greatly, 6 moderately, 3 were unimproved and hospitalized, while 20 were lost to follow-up. Librium particularly controlled the tremor, restlessness and anxiety in the acute stage within 30 to 90 minutes(4).

In comparative studies, 23 alcoholic patients were each treated successively for 20 days by each of 3 methods—disulfiram, calcium carbimide and placebo. As expected, disulfiram gave more side effects than did calcium carbimide, which in turn gave more than did placebo(8).

A continuing research at Shadel Hospital in Seattle, Wash., reports good results from the use of diphosphopyridine nucleotide (DPN). In 83 adult chronic alcoholics DPN greatly reduced and in some cases completely removed the craving for alcohol. Especially good results were cited in two cases of delirium tremens. In the first case convulsions which had been occurring at the rate of 3 to 4 an hour disappeared entirely one hour after treatment, delirium soon disappeared, the temperature dropped from 103° to 100°, and the patient became mentally clear. A second patient who after delirium tremens was in a state of alcoholic stupor cleared up completely in 35 minutes

and showed no further physical or mental symptoms(9).

A study of vitamin C concludes "that alcoholic patients as a rule need at least 500 mg. of vitamin C daily for a week in order to correct their deficiency"(5).

In his study of alcoholic conditions in Czechoslovakia, Poland and Russia, Chafetz (1) found that in Czechoslovakia the incidence of alcoholism was 120,000 or about 2% of the total population, but could not obtain corresponding figures for Poland and Russia. The estate of a wealthy Czech brewer was confiscated and used as an institution for the treatment and prevention of alcoholism. There was a very high rate of broken marriages among alcoholics, and a patient coming for treatment was asked to bring his spouse along for the first visit. If marital difficulties were considered to enter the problem, the marital partner was also treated. Polish hospital facilities for alcoholics were found to be quite inadequate and alcoholism to have increased tremendously since World War II. The transplanting of persons from a rural to an urban setting, with feelings of isolation and loss of friends, was regarded as an important cause. In Russia it was admitted that alcoholism was as prevalent as in any other country, and the attitude toward the alcoholic patient was largely moralistic and punitive.

Dr. B. Lewin of Dusseldorf, Germany (14), reported at the Third World Congress of Psychiatry in Montreal, Canada, that with postwar German prosperity alcoholism increased markedly, although drug addiction decreased. He estimated that of 7,000,000 excessive drinkers in West Germany, 300,000 were true alcohol addicts. Because treatment of these patients has been very unsuccessful by ordinary hospitalization, psychotherapy was begun on the theory that compulsive drinking was due to psychological causes. Individual therapy was first used and then, as the number of cases increased, group therapy, for which excellent results were claimed. The patients developed an understanding of their problems and an attitude of responsibility, which was of great value in their rehabilitation and their ability to adjust in their families and their communities.

MacKay(7) reports that 17 adolescent

boys and girls treated at the Peter Bent Brigham Alcoholism Clinic showed hostility, depression, compulsiveness and sexual confusion. The fathers of most were alcoholic and in some cases the mothers were also. The weakness of the alcoholic parent may be one reason for the adolescent's drinking. By proving their ability to drink successfully in contrast to the way their parents drink, the youths are asserting their independence.

Moore(10) states that the therapist is often angered by the patient who constantly seeks indulgence and may reject him completely. Often, he then becomes anxious because of his feelings of anger toward the patient and may through a reaction formation become overindulgent and permissive. This attitude is harmful and encourages the patient to deny the severity of his drinking problem. Therefore "a treatment program for alcoholic patients should be scrutinized repeatedly to see whether routine techniques are dictated by what is really best for the patients or whether they are either overt expressions of hostility or the defense against such expression by adoption of an opposite, overly permissive attitude. Both

diminish the potential value of a rehabilitation program."

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GERIATRICS

KARL M. BOWMAN, M.D., AND BERNICE ENGLE, M.A.¹

The average length of life for U. S. white people reached an all-time high of 69.7 years in 1959 and again in 1960, a gain of about one-third of a year over that in 1958. White females born in 1959 have an expectation of 73.9 years : white males, 67.3 years. This female advantage of 6.6 years is enhanced in that a white girl aged 8½ has as many years left on an average, 67.3 years, as has a new born white boy. White persons aged 50 can on the average expect 25 more years (males, 23 and females, 27) ; those aged 69 can expect 11.7 years (white male 10.6 and females 12.8).

In the Kansas City Study of Adult Life (6), a group of 38 persons past age 80 was compared with a group in the 70's

and with the panel population of 279 subjects aged 50-70. Some evidence associates living past age 80 with being one of the biologically and perhaps psychologically elite who often have "a surprisingly high level of competence," with high spirits. The group in their 80's had less illness (the 9 with impairment seemed adjusted to their disability) and higher morale than did those in the 70's, who in turn were better off than the panel group.

Nuffield House, a British day center for the psychiatric elderly, has accommodated about 50 persons daily. About a third are admitted on discharge from the associated inpatient service ; the rest are recommended by the Mental Health Department, general physicians, neighbors. The commonest form of mental disability has been senile psychosis, senile depression,

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and paranoid states(14). In a survey of 65 British day hospitals, Farndale(8) noted the medical, social and economic advantages of geriatric day centers, which help to keep the elderly out of hospital beds, to meet their social needs and to relieve their relatives.

A general hospital team headed by two physicians, one a psychiatrist, has given care in home or general hospital to acutely ill patients, many of them elderly, allowing them partial regression for a few days and then rapidly encouraging them to meet the immediate environmental demands, and also working with relatives to support their care(11). Another general hospital has integrated its care with that of a nursing home, with quick and easy transfer of the geriatric patient from one to the other institution, plus a social work follow-up of each patient.

A study(17) of 540 aged male patients admitted for the first time to a New York State mental hospital, 1957-59, indicated that 27% had neurologic abnormality; 20%, heavy chronic alcoholism; 83%, memory, judgment and orientation defects; 38%, depression; 8%, relatives with mental hospitalization; and 50%, early mortality—dying in the first year.

Three double-blind studies used to evaluate drugs in the treatment of aged patients have been reported. In 20 patients with chronic brain syndrome the use in a 5-week period of L-Glutavite did not differ significantly from that of Ritalin plus multivitamins and iron, though the clinical impression favored the Ritalin combination(7). A new tablet form of chloral hydrate (WM-1127) for the treatment of insomnia in 56 patients in an old age home proved to be safe and effective and to obviate the objectionable taste of the liquid form(3). A new psychic energizer, an isocarboxazid (Marplan), an analogue of iproniazid (Marsilid), was used in a 14-week study of 34 residents of an old age home. No significant changes in group behavior were observed, but the improved mood and attitude in 22 was considered to warrant use of Marplan in depressed patients(12). Prochlorperazine has been found an effective tranquilizer in management of 103 geriatric patients in

4 years of office practice; no patient had to be hospitalized(16).

The use of Tofranil seemed to relieve a rather unspecific type of mood disturbance and to effect a return of activity, interest, memory and judgment in 5 of 6 aging persons who had become progressively depressed and unhappy(5).

Several articles have again reported the value of psychotherapy in the treatment of aged persons.

The use of procaine, as advocated by Aslan and co-workers, was evaluated in 3 groups each of 13 mental patients aged 70 and older, who had been hospitalized 3 months to 5 years. "The mental status, physical condition and laboratory findings revealed no discernible improvement or deterioration attributable to two series of procaine injections"(10). Alvarez(2), noting that this treatment was dropped after being popular in the U. S. years ago, and that a comprehensive review of the literature shows no evidence of any value in procaine, hopes we have seen an "end of this particular research for the fountain of youth."

A 5-year research has begun on the theory that aging may be due to spontaneous somatic mutation; as many as 20% of the body's cells may have undergone a mutational change in a normal life span. An aging person might then develop throughout the body foreign tissues to which he reacts as to an allergy. Experimental animals with short life spans are being used and various cellular, chemical and pathologic changes studied, to see whether immune mechanisms may influence the rate of aging(15).

The mammillary bodies and the hippocampal zones are considered by Brierly(4) essential to the processes of memorizing and remembering. But stored memory cannot be localized until the linking of the two zones is understood. Memory defect in older people, with relatively greater failure for recent than past events, is also a feature of Korsakoff's, where the minimal pathologic lesion is damage to the mammillary bodies.

Freeman(9) studied sexual capacities in 74 men, average age 71, of whom 72% were college graduates or better, including 34

physicians. Almost 82% had been married at least once and 10% were widowed; 70% evaluated their health as good, 27% as average or fair and 3% as poor. About 86% called their lifetime sex experience excellent or good, with a sharp drop in sex activity at age 65. In the group 25% were impotent by age 60.

Korenchevsky(13) has considered that "sexual excesses age the subject as much as any other excesses." A Los Angeles gynecologist has advised his patients to avoid monotony but stay with monogamy and to enjoy sex. Many of them, today in their 70s and 80s, are reported to maintain a full, satisfying sex relationship.

It has been suggested that retired men, especially highly skilled workers, be sent overseas as Peace Corps members, to serve as managers and foremen in badly needed skills.

Data collected over a 12-year period, 1944-55, in a large Southern state prison indicate that newly admitted prisoners aged 50 and above had slightly higher incidence of convictions for assault than did the total prison population; a much higher incidence for embezzlement, forgery and the like; about twice the incidence of crimes of violence, including sex crimes; and a lower incidence of breaking and entering, burglary and robbery. Of the group, 44% were recidivists, 56% were first offenders(1).

A preliminary report(18) of a representative sample of 1492 non-institutionalized persons aged 65 or older refutes present stereotypes of the aged. The typical subject has good or fair health, a modal cash income of \$2,000 to \$3,000 and substantial

assets, frequent contact with his children, and a church affiliation.

The March 1961 issue of *Geriatrics* contains final reports of the September 1960 White House Conference on Aging, and covers population trends, income and health costs, health and medical care, and other socio-economic and educational aspects.

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EPILEPSY

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(1-9). Some of the points made were : there is an intrinsic nerve cell instability which is probably secondary to a metabolic defect or an impaired structure (chemical, mechanical, or electrical) which is manifest by rhythmic oscillations of potential and excessive and prolonged depolarization; de-

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EPILEPSY

WALTER J. FRIEDLANDER, M.D.¹

Some of the newer neurophysiological aspects of epilepsy were presented in a very interesting symposium on *Basic Mechanisms of the Epileptic Discharge* published in the March 1961 issue of *Epilepsia*

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¹ Dept. of Neurology, Albany Medical College, Albany, N. Y.

pending on the degree of depolarization, there may be either excessive neuronal firing or an arrest of firing; the gradient of polarity between the dendrite and the cell body is probably quite significant; in addition to intrinsic mechanisms, there are also important extrinsic mechanisms; epileptiform waves as recorded by gross electrodes on or in the brain, or by the EEG apparently bear only an indefinite relationship with what can be identified as neuronal discharges by micro-electrode studies; further evidence of both excitatory and inhibitory neuronal action in epileptic seizures was also presented. The important role of inhibitory activity can also be assumed from the following: Rovit, Hardy, and Gloor (10), and Iannone and Morrell (11) demonstrated that intracarotid Amytal given contralaterally to an epileptogenic focus can increase this epileptogenic activity; Seguin, *et al.* (12), found a decreased Metrazol threshold after corpus collusum section; and Efron's case (13) in which cutaneous stimulation inhibited a Jacksonian seizure but produced a marked Todd's paralysis.

The role of B-6, gamma-aminobutyric acid and other elements in this cyclic biochemical reaction peculiar to the central nervous system continued to attract considerable attention although there is increasing evidence that there is not a simple relationship between a decrease of GABA and the production of seizures (14-17).

Pathological examination of three cases of "hypsarhythmia" (18) found a chronic, edematous process with spongy degeneration but little glial reaction; the findings suggested that there was not a primary demyelination. In four other cases (19) there was diffuse and extensive cortical and subcortical degeneration. The pathological findings in two cases with "centrencephalic" EEG's and a review of eleven others (20) revealed the presence of brain tumors mostly in the subtentorial areas or the midline. A hypothalamic tumor was found in one patient with definite "14 and 6 per second positive spikes" and also in another patient with a questionable "14 and 6 per second positive spikes" (21).

Several papers reported on the incidence of post-traumatic epilepsy; the incidence from the Korean War (22) was found to be

quite similar to that reported from World War II; in one thousand consecutive head injuries (23) not caused by missiles, the following observations were made: if the patient had previous seizures, the course of the epilepsy was not made worse by the subsequent injury; seizures were much more common in the age group under five; no patient over twenty-five developed epilepsy who did not have some degree of post-traumatic amnesia; and epilepsy, at least of early onset, was greater with fractures of the frontal and temporal-parietal areas than with fractures of the occipital areas, or where there was no fracture.

Among conditions where convulsions were reported were: one-fourth of infants and children with brain abscesses (24), 19% of typhoid encephalopathies (25), 25% with encephalitic hydatid cysts (26), 8% with mumps meningoencephalitis (27), 5% with paragonimiasis (28), as a presenting symptom in 10% of tuberculosis meningitis in children (29), 19% of choroid plexus papilloma in children (30), about one-half the children with cerebral arterial thrombosis (31), 5% (32) or less than 1% (33) of patients with multiple sclerosis, 56% with "meningeal leukemia" (34), 24% with lupus erythematosus (35), and 5% of children with roseola infantum (36). Seizures were the presenting symptom of a brain tumor in 25% (37, 38) or 48% (39) of the cases reported in several series; gliomas which presented first with seizures had a better prognosis (38), astrocytomas were the most likely to present with seizures while metastatic tumors were the least likely to, and in about 50% of patients with brain tumors, the presenting seizures had no good localizing features (39).

The subject of television-induced seizures was reviewed (40, 41) and a number of new cases reported (42-49); the syndrome is usually in children or young adults, may be the only generalized convulsion the patient has had, and is associated with a flicker of an incorrectly operating T.V.; it usually is associated with a marked sensitivity to intermittent photic stimulation as performed in the EEG laboratory.

At least some cases of infantile spasms were found to be associated with a disturbance of vitamin B-6 metabolism (50) or

with phenylketonuria(51). Status epilepticus was found to be associated usually with a lesion in the frontal white matter and a "perifocal or diffused cerebral edema"(52). Another case of very prolonged (48 hours), continuous petit mal was reported(53); Fukuyama, *et al.*(54), discussed twenty-one epileptic children whose attacks were accompanied by abnormal laughter or smiling expression. Three new cases of reading epilepsy were reported(55, 56) in one of whom the eyeball movements preceded the EEG seizure. Among the other unusual seizures was a case of minor seizures that could be induced by the patient looking at his left hand(57), a case of temporal lobe seizures that were induced by smoking a cigarette rapidly and thus hyperventilating(58), five cases of seizures with pallalia in which the lesion was on the interhemispheric face of the frontal lobe anterior to the motor zone(59), a case of pilomotor seizure secondary to a parieto-occipital glioblastoma(60), and a case of focal motor seizures with unconsciousness that occurred immediately following orgasms and that apparently were not due to hyperventilation(61).

Learning(62) or performance(63) were found not to be impaired during paroxysmal activity in the electroencephalogram; there was, however, an impairment in rate of learning retention in the presence of specific, experimental cortico-epileptogenic lesions(64, 65). If EEG rather than clinical criteria were used for diagnosis(66), some differences in personality of epileptics could be discerned, *e.g.*, a "rhinencephalic group" of epileptics tended to have a higher incidence of neuroticism than a "centrencephalic group." Keating's(67) review of the literature on the relationship of epilepsy and intelligence in school children emphasized the total lack of agreement as to such a relationship; he also reviewed the literature on the relationship of epilepsy and behavior disorders in school children(68) and concluded that there was but little to substantiate the presence of an "epileptoid personality" and that a large part of whatever personality disturbances there might have been were reactions to the epilepsy. Chaudry and Pond(69) compared a group of epileptic children who showed intel-

lectual and social deterioration with a control group of epileptic children with similar brain damage but with no deterioration: the former group differed significantly in having an increased frequency of seizures, poorer effect of medication on the seizures, and greater incidence of generalized EEG abnormalities with superimposed focal abnormalities. In a group of 26 outpatient epileptics compared to a control group(70), Rorschach experts could select subjects from the controls with better than chance frequency based on certain aspects of the way epileptics communicated and organized the Rorschach responses. »

A survey of four large industrial companies(71) hiring a total of 77 epileptics showed that the epileptics as a group were quite capable of normal work performance. In a series of 736 epileptics(72), which excluded disability pensioners and married women, only 23 had occupational difficulties solely due to their epilepsy.

The use of steroids in the treatment of massive spasms ("hypsarrhythmia") was reported by numerous authors(19, 73-80). The consensus seems to be that it caused a decrease in the frequency of seizures and an improvement in the EEG, but it usually did not have much effect on the mental status; also, the earlier it is employed, the better. Librium was found to have anti-convulsant activity(81, 82). Among other anti-convulsants tried clinically and reported of value were: Trinurid(83, 84), ethosuximide (P.M. 671) (a-ethyl-a-methylsuccinimide)(85-87), N-3 (methylphenylethylhydantoin)(88), Celontin(89), Elipten(90, 91), and a lysergic acid derivative with anti-serotin effects(92).

Lastly, two papers dealing with miscellaneous topics might be commented on. The Committee on Medical Criterion of the Aerospace Medical Association(93) made the following recommendations in regard to epileptics using commercial air flights: "Epileptic persons subject to frequent seizures should travel with a companion when this is possible . . . sedation before flight, reassurance and proper oxygenation during flight usually permit epileptic persons to travel satisfactorily . . . provided the aircraft is pressurized to the extent that the simulated cabin altitude will

not exceed 8,000 feet." The distribution of ABO blood groups in "cryptogenic epileptics" is about the same as in the general population(94).

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PSYCHIATRIC SOCIAL WORK

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The continued growth in the field of psychiatric social work is partially reflected in the membership figures of the Psychiatric Social Work Section of the National Association of Social Workers. This membership

has now passed the 4,400 mark. Many of the important events in psychiatric social work in this past year have been associated with the activity of the professional society. The NASW has instituted a certification plan which, in essence, requires that a certified social worker have a Master's degree from an accredited school of social work, two

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years of supervised practice in an agency which has an organized staff development program and membership in the NASW, with expressed adherence to its code of ethics. The Board of Directors of the NASW has taken a stand on the private practice of social work, legitimatizing it as a form of social work practice, and setting as a standard certification by NASW and five years of professional experience following the Master's degree. A recent survey of Psychiatric Social Work Section members showed that 21% of the respondents were participating in independent or private practice of some kind, the great majority on a part time basis. The action by the Board of Directors of the NASW constitutes recognition that the development of private practice of social work now commands the attention and the sanction of the professional society.

The field of psychiatric social work has been affected by the trend toward generic training and a more generic type of practice. The Veterans Administration and some other medical agencies have shifted to the designation of "clinical social worker," rather than the specific designation "psychiatric social worker," or "medical social worker." In recent years social work education has de-emphasized specialization. The NASW now is embarking on a program of altering its organizational structure and it appears that in this alteration the specialty sections, such as psychiatric social work and medical social work, will be absorbed into a "Council on the Advancement of Practice and Knowledge." Under this arrangement the program activities of the specialties and their liaison activities with other professions will continue, but there will be less duplication of organizational structure and administrative activities and much closer coordination of the work of all of the specialty groups.

The development of private practice described above is only one of many new developments in the practice of psychiatric social work. There is a rapidly developing research movement with a growing number of schools of social work offering the Doctor of Philosophy or Doctor of Social Work degree. The Veterans Administration has initiated a training program for doctoral

candidates in social work research and employs research social workers on each of the teams in its Psychiatric Evaluation Project. There is increasing pressure on social work practitioners to participate in research activities.

The rapid development of social science knowledge has had a decisive impact on social work education and practice. This heightened interest in social process is producing a subtle, but visible, movement away from the traditional casework method. More and more social workers are doing group work and group therapy. Many are actively involved in the therapeutic community programs in mental hospitals. There is a marked resurgence of interest in the family as a social unit, with a great deal of research, treatment and teaching in the area of family diagnosis and family treatment. An increasing number of agency executives are expecting their social workers to participate in mental health education activities and community organization activities. Particularly in the field of hospital psychiatric social work, there is emphasis on contacting community groups in an effort to provide information and reassurance about the mentally ill in order to facilitate their reintegration into community life. The same group is placing great stress on the development of after-care resources for the hospitalized psychiatric patient, with much emphasis on foster homes, half-way houses, sheltered workshops, social clubs and day centers.

There has also been a steady increase in social work involvement in medical education, to the place where most major medical schools and their hospitals employ social workers, not only in direct service to patients, but in research, classroom and bedside teaching as well.

The proliferation of social work functions has made it necessary for the profession to examine its priorities and its use of its skilled manpower. One of the most significant concerns of research in social work has to do with the examination of social work competence in order to determine which social work tasks can be assigned to people without full graduate training, to volunteers, to clerical personnel, etc., in order that professional time may be con-

served for professional tasks which require a high degree of responsibility, skill and ingenuity. The Practice Committee of the Psychiatric Social Work Section of NASW has undertaken a 2-year effort to develop a "Continuum of Competence," based on such issues as the extent to which procedures and activities are standardized and the nature and extent of risk to the client, patient, family or community. Obviously, the profession cannot continue to take on new functions without delegating some of its traditional functions, and a concerted effort is on the way to assure that the social treatment needs of patients and clients will continue to be met, even though social work practice undergoes a substantial change.

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MENTAL HEALTH IN EDUCATION

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Today the most pressing challenge to teachers in developing health values is in the field of mental health, says a recent School Health Bureau publication(1).

Students will readily understand that having good mental health means that they are able to handle their emotions in ways that do not interfere with their friendships, their work or study, or their ability to do what they are capable of doing. But practically all of them

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know, too, that emotions sometimes get out of hand. That is why part of their mental health education should be ways of getting help when their worries and fears are too much for them. The teacher may very well be that person if he has shown he is genuinely interested in the welfare of every student.

Of the many factors that influence classroom "atmosphere," says Bernard in his recently published *Mental Hygiene for Classroom Teachers*—curriculum, methods, buildings, teaching materials, community, pupils—the most important is the teacher himself (2).

It is his personality, more than what he knows or what methods he uses. The teacher himself must be in good mental health; teachers must study means of outgrowing the negative influences of their own childhood; individuals must be treated as unique persons; the handicapping effects of ill-conceived remarks and categorical evaluations must be avoided.

Education's part in the development of mental health programs in the United States is effectively reviewed by Dr. Nina Ridenour's recently published history of the movement (3). Dr. Ridenour traces the change in teachers' attitudes toward children's behavior—from concern with "aggressiveness" in all its forms to "signs of withdrawing and evidence of a child's inability to get along with his peers." She pays special tribute to the nursery schools:

From the point of view of mental health, nursery schools have been one of the most receptive of the professional groups. Not only have they utilized mental health principles with remarkable freshness and consistency in their own work, but they have contributed enormously to mental health with their sensitive perception of children's needs, of what constitutes "good experiences," and of the dynamic quality of "development"—all of these being terms they have endowed with rich meaning.

That the school teacher at all levels is potentially a most important professionally trained individual in the development of mental health is further stressed by Lawrence K. Frank.

Next to the home and parents, the school and the teachers are in the most promising position

to foster mental health in the classroom through direct relations with the class as a group and with individual pupils (4).

And Frank notes that teacher-training institutions generally are giving courses in child development and utilizing nursery schools for observation. But, he says,

student teachers are not receiving systematic training in the newer concepts of personality development and are still being taught educational psychology derived from animal experiments about learning that ignores the emotional and other aspects of learning, especially symbolic learning.

The school administrator's own mental health, as well as his influence on the mental health of the children, the teachers, and the community, has had attention recently. "Over the past decade there has been a slowly increasing recognition that the school administrator is a key factor in determining the type of atmosphere and climate prevailing in a school or school system," says Otto (5). But, he adds, "an examination of in-service training programs of professional meetings reveals that very little program time is devoted to the mental health of the school or school system." Reporting on returns from informal inquiries over a 5-year period on "what practices have you used or what things have you done which you believe have improved your mental health," 321 responses from 137 school administrators, listed the following: Talking it over, 86; developing good administrative working relationships, 81; handling work pressures, routines, and office atmosphere, 57; securing a balanced life outside of the office, 48; improving communication and listening, 23; others, 26.

Increased concern for mental health on the part of school administrators is further indicated by the fact that the professional organization of this group, the American Association of School Administrators, took as the theme for its San Francisco meeting in 1961 *Mental Health and National Survival*. In his opening address at this meeting Professor F. H. Sanford, University of Texas, said:

We are accumulating a significant body of scientific knowledge about human behavior.

More people than ever before—psychologists, sociologists, anthropologists, and others—are contributing to that knowledge. More professional people—counsellors, psychiatrists, educators, psychologists, and others—are attempting directly to apply that knowledge to the solution of human problems, and millions of laymen, now as never before, are inclined to the belief that knowledge coming from the behavioral sciences has a direct relevance for the solution of problems of human welfare(6).

Professor Sanford concluded with the statement: "I believe educators do and will play the crucial role in the on-going and world-saving process whereby knowledge—including scientific knowledge of human behavior—is translated into human wisdom."

PSYCHIATRIC NURSING

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Nursing interests in the field of mental health and psychiatric nursing cover a wide range of activities. Programs devoted to this area of clinical nursing at the NLN Biennial Convention(1), the APA Mental Hospitals Institute(2), and the APA annual meeting (3) indicate concern for trends and problems in psychiatric nursing practice, in-service education, nursing service, nursing education and nursing research.

Reports from state and local councils of the NLN Council on Psychiatric and Mental Health Nursing demonstrate interest in a wide variety of topics and activities. Council members have been discussing the nurse's role in the community mental health, the contributions of the nurse in psychiatric research, the planning of psychiatric services and care of patients in general hospitals, various aspects of psychiatric nursing practice, undergraduate and graduate programs in nursing education, aide education, and the care of emotionally ill and retarded children(4).

Continuing emphasis has been placed on the need to more clearly define the role of the psychiatric nurse(5). Nurses have attempted to carefully examine the components of psychiatric nursing(6), how they

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use their knowledge of psychodynamics in working with patients(7), the meaning of acceptance to patients and families(8), elements in the nurse-patient relationships(9), the concept of patients' dependency and how to deal with it(10), the special needs of the depressed patient(11), and the meaning of acting out behavior in nursing situations(12). The nursing role in insulin therapy has been described as one in which the staff has close contact with the patient and has many opportunities for strengthening and establishing therapeutic relationships(13).

The meaning of a therapeutic milieu and its effect on patients and staff is described in changes that occurred by restructuring the ward environment for regressed schizophrenic patients(14). Emphasis on the effectiveness of a therapeutic environment in a mental health center(15) and in a military hospital(16) resulted in early return of patients to the community. Patients have participated in surveys of nursing service(17) and in planning the ward environment in a large state hospital with resultant changes in the atmosphere and outlook both of patients and personnel(18).

Public health nursing groups are making increasing contributions to the care of discharged psychiatric patients and their

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families. Collaboration between official and non-official agencies and psychiatric hospitals continues to prove effective in providing for continuity of nursing service(19). The bringing of nursing service into the home involved close working with agencies and people who have an interest in the returned patient(20). Emphasis is also being placed on the preventive aspects of the public health nurse's role in mental health programs(21, 22). Of special interest has been the retarded child in his home, since parents of retarded children believe that the public health nurse can help with many developmental problems(23).

Educational programs for professional nurses, practical nurses(24), and attendants or aides have been reported in several publications. Lewis feels that communication problems arise from ambiguity about the term specialization in psychiatric nursing(25). Four skilled psychiatric nurses indicated that the nursing service administrator of a psychiatric hospital should be a clinical specialist in psychiatric nursing in order to adequately fulfill the administrator role(26).

In the field of undergraduate education, continuing emphasis has been placed on the integration of social science and psychiatric concepts throughout the curriculum(27, 28, 29). Concern has been expressed about the relationship of the preservice nursing program and in particular, the basic course in psychiatric nursing, to future career choice of psychiatric nursing(30, 31). The attitudes of nursing students toward psychiatric hospitals, psychiatrists and psychiatric treatment have been assessed(32). The attitudes of nursing students as related to their success in meeting the requirements of the educational experience in psychiatric nursing were studied in a private psychiatric hospital. The authors concluded that no relationships between attitudes and proficiency in practice emerged(33).

Various methods have been explored in the teaching of psychiatric nursing both to students(34) and to faculty members who did not have a basic psychiatric nursing experience(35). A WICHEN group worked to develop a method of approach to identify the understandings and skills needed by today's psychiatric nurse and to identify the

clinical content of psychiatric nursing(36). The final report of the NLN-APA Seminar Project for Teachers of Psychiatric Aides indicated that an intensive 10-day seminar focussed on nurse-patient relationships is a useful method for the teaching of psychiatric nursing to professional nurses and also has implications for teaching other groups of students(37).

The preservice and inservice education of practical nurses and aides for psychiatric nursing services continues to be of concern to nursing groups(38, 39, 40). Nursing service, hospital administration, and the hospital ward atmosphere were seen as vitally influencing the recruitment of aides(41). Aides, technicians, and practical nurses have described their many interests in remotivation, inservice programs and work with patients in *The Correspondent*, the NLN quarterly newsletter for aides, technicians and practical nurses(42).

Research activities in psychiatric nursing are in progress in many areas. A report of the nurse in the role of the research observer indicates that the responsibilities, demands and motivations associated with being a nurse differ in several respects from those associated with being a researcher(43). Additional studies are concerned with the teaching of a concept of anxiety to patients(44) and the vocational and personal preferences of psychiatric and general nurses(45). A guide for the evaluation of psychiatric nursing services has been prepared from data collected by a nursing service consultant in 67 institutions in 13 states over a 5-year period(46).

The interests of nursing personnel in psychiatric problems are many and varied. The need for close collaboration and coordination of the activities of all members of the psychiatric team in both hospitals and community agencies is an area in need of continuing investigation and study. Progress has been made, but much more needs to be accomplished in psychiatric nursing in clinical practice, education, service and research.

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FAMILY CARE AND OUTPATIENT PSYCHIATRY

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FAMILY CARE

There has been a decline in the use of

family care in 1960-61. Up to this time regular increases had occurred over a decade. Exceptions to the country wide decrease occurred in California, Illinois and Pennsylvania where the programs are still

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growing. New Jersey, not previously included in the annual listings of states, had 657 patients in family care on June 30. Although there were fewer patients resident in family care homes operated by the Veterans Administration in 1961, more placements were made(1).

Since the establishment of the Chicago Mental Health Centers, Illinois reports its mental hospitals are now able to devote more time to case-finding as they have been relieved of responsibility for home-finding and of the supervision of patients(2).

Patients who do well in foster homes are characterized by the predictability or stability of their behavior within the hospital, their capacity for relating to some persons in their environment, and their lack of initiative or drive toward change in their situation, according to Lyle and Trail. They found that these qualities tend to be associated with patients who are over 40 and hospitalized more than 10 years. Chances for success are improved if the patient has some recreational interests that can be sustained in his new living situation.

Findings that withdrawal and regressive tendencies decreased during foster home placement, both for those who remained outside the hospital and those who were returned, indicate that family care has a stimulating effect upon the "institutionalized" patients(3).

Karl and Russell reveal that almost 2,400 veterans were placed in foster homes by the Veterans Administration during the year, an increase of 22% over the calendar year 1959. During 1960, there were 454 patients in foster homes discharged from the hospital rolls. This represents an increase of 16% over the number discharged during the preceding year. Only 13%, or 305 of the patients in foster homes had to be returned to the hospital(1).

Ullman and his co-workers summarized previous studies as to measures of efficacy, the identification of home care patients, and certain demographic information and outcome(4).

Partridge described group meetings over a 3-month period that motivated patients to accept placement in family care(5).

The Family Care Foundation for the Mentally Ill has been organized to improve

the quality of care and therapy for the mentally ill. It seeks to reduce the population of closed mental institutions by the study, encouragement and propagation of the techniques of home placement and family care in open communities(6).

OUTPATIENT TREATMENT

The Joint Commission on Mental Illness and Health in its volume *Action for Mental Health*(1), stressed the importance of providing immediate help for the emotionally disturbed through extending the outpatient system in the community. Present plans make it difficult for persons with mental illness to secure appropriate help. Over-specialization, competition, lack of coordination, and the length of waiting lists were some of the reasons given for the current situation. Proposed changes in the outpatient system pose new problems that are discussed by Schwartz in *New Perspectives on Patient Care*(2).

The Joint Commission also recommended the earliest possible treatment of mental illness through expansion of emergency care programs and of community mental health clinics as a "main line of defense." As an objective, one full time mental health clinic should be available to each 50,000 of population. If followed, there should be 3,600 full time clinics. More psychiatrists in private practice should be induced to devote a substantial part of their working hours to community clinic service(1).

Scher and David published a book *The Outpatient Treatment of Schizophrenia*. Covered in this report of a four-day symposium, are the areas of etiology, handling of crises, patient selection and treatment goals in the outpatient management of schizophrenic individuals(3).

Bellak established a "Trouble Shooting" Clinic in the Elmhurst, L. I. Community Hospital to give around the clock help to those with mental illness. General practitioners participated in a seminar and observed the interviews with clinic patients. Later, these physicians assisted in clinic treatments under the supervision of the psychiatrist(4).

Hirsh described an outpatient department that will carry on all the functions ordinarily performed by poison control cen-

ters, suicide bureaus, Alcoholics Anonymous, Narcotics Anonymous, hospital emergency rooms, and mental hygiene clinics. It is envisioned as the eventual outgrowth of the "trouble shooting" clinic in operation for the last two years at Elmhurst General Hospital, New York. No conventional screening of patients before appointments is required, nor is referral by family physicians, police, or anyone else necessary.

The "walk-in" clinic differs from the mental hygiene clinic, or even the 24-hour psychiatric coverage of the emergency room in a general hospital, in that it is designed to care for emergency emotional problems on the spot. It is not staffed, structured, or equipped to deal with these problems on a long range basis. If a problem requires extended treatment or other care is indicated, the patient is referred elsewhere(5).

McCarty and his associates summarize data published in the 1959 Directory of Outpatient Psychiatric Clinics and other Mental Health Resources in the United States and Territories. Figures on professional staff as of April 30, 1959, were available for 1,378 or 96% of clinic facilities.

The average number of professional man-hours for clinic treatment per 100,000 population rose from 115 to 149, a net gain of 30%. Man-hours of each of the three major professions comprising the staff of these clinics increased markedly. The gain was somewhat greater for psychiatrists (46%) than for clinical psychologists (43%) or psychiatric social workers (36%); hours of all other professionals increased 45%.

Psychiatric social workers continue to contribute the largest proportion of professional man-hours to clinic therapy (36%), whereas clinical psychologists contribute the lowest (26%). Relatively few clinic man-hours are provided by psychiatric nurses (1% of the total). A variety of other professionals contribute the remaining 6% of the man-hours.

The growth of clinic service is almost nation wide. Forty-eight states reported an increase in professional man-hours between 1954 and 1959, whereas only five states showed a decline. The number of clinics with services which were limited to adults doubled in the last five years.

Another significant finding is a large increase in the number of full time clinics

(open 35 hours or more weekly). There has been an associated decline in the number of part time clinics(6).

The 1961 publication by the National Association of Mental Health of a new edition of the Directory of Outpatient Psychiatric Clinics lists 1,450 psychiatric clinics operating on either a full time or part time basis. The directory gives such information as geographical area, sponsor, special groups served, age limitations for patients accepted, clinic schedules, and number and type of professional staff(7).

Gross described the impact of drugs on a mental hospital outpatient clinic. There were 10 times as many clinic visits during the year 1959-60 as compared with 1953-54. Most of the patients had functional psychoses, were seen every 2 to 6 weeks and were supplied with ataractic drugs. The average cost to the hospital for the drugs used (for 235 clinic patients) was slightly over 16¢ per day or about \$5 a month. The author believes the increase in clinic attendance may be due to a more accepting attitude on the part of patients. They have been made aware of the necessity of continued medication in order to live a more useful life in the community and to avoid hospitalization(8).

The dropout rate in the Hutchinson Memorial Psychiatric Clinic of the Tulane University Department of Psychiatry and Neurology is much smaller than the 50% rate reported by other psychiatric outpatient clinics(9). A dropout patient is defined as one who has discontinued therapy, for whatever reason, before completing 6 treatment sessions. Leif reports a dropout rate of 6% for the Tulane Clinic.

The low dropout rate was felt to be due to the selection of patients for treatment who have a very high level of education and come from social classes 2 and 3 (Hollingshead and Redlich), and therefore are more amenable to insight psychotherapy(10).

MacMillan reports integration of the medical and social work staffs of the mental hospital and those of the community mental health services. One very definite advantage in community work is that by means of domiciliary visitation, psychiatric illness is treated at an even earlier stage than is pos-

sible in the outpatient clinic. In an integrated mental health service the home and health visitors encounter psychiatric situations before serious symptoms have developed(11).

A regional clinic service has been developed over the past two years in the Swift Current health region with a population of some 55,000 people. One psychiatrist and one psychiatric social worker together have operated a full time clinic in the major city of the region with monthly part time clinics in three other populated centers. Home visiting has been extensively carried out and a relationship with the general practitioners has been developed so that practically all cases of mental illness are referred to the clinic before consideration is given to mental hospital committal (12).

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PSYCHIATRY AND LAW

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The trend toward collaboration between disciplines concerned with social deviancy seemed to be accelerating. More institutes in which behavioral scientists, lawyers and psychiatrists share perspectives and methods in studying common socio-psychological problems have been established during the

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² Dr. Winfred Overholser, who, with scholarship and wit, has previously prepared this annual review, has relinquished the task but continues his leadership in the field of forensic psychiatry.

past year at Stanford and at the University of California in Berkeley, and investigators from these disciplines were Fellows together at the Center for Advanced Study in the Behavioral Sciences. Such contiguity undoubtedly eased communication, and, hopefully, predisposed toward effective cooperation. Within the professional organizations also this direction was discernible. The American Bar Foundation(1) sponsored the publication of a comprehensive exposition of legal practices concerning mentally ill offenders, and committees of the American Medical Association turned their atten-

tion to mental health, including shared problems of psychiatry and law (2).

Selznick (3) presented a tightly reasoned case for investigative collaboration between sociology and proponents of natural law as properly sharing a concern with primary values. Hoebel (4) eloquently demonstrated, from an anthropologist's point of view, that "law as an aspect of human control is a creature of social invention on all levels of cultural development," in contradiction to the thesis that some primitive cultures had none. Berman (5) urged not only better use of psychiatry in legal procedures but reciprocal utilization by psychiatry of insights derived from legal experience. Indicating the wider use of qualified psychiatric experts by the Soviets, he epitomized the Soviet image of the defendant as the dependent man and the growing youth, the Anglo-American legal tradition of the reasonably prudent man, and the United States psychiatric model of the victim of heredity and early childhood. Mannheim (6) reviewed the problems of evolving criminal law and mentally abnormal offenders in an international context, emphasizing that harmonious cooperation between well-trained lawyers and psychiatrists is as important as formulae. Silving (7) held that psychoanalysis can deepen and broaden criminal law, but cautioned against application of psychoanalytic concepts in violation of democratic rights. Lasswell and Freedman (8-10) surveyed common research frontiers of psychiatry, behavioral science and law, and suggested a National Institute of Social and Behavioral Psychopathology within which to carry out investigations.

Glueck (11) replied to criticisms of his monumental work in juvenile delinquency and pointed to encouraging preliminary reports of validation studies of the Glueck Prediction Tables. Bennett (12), comparing delinquent to neurotic children, found the delinquents more likely to have suffered "morbid" home conditions, unsettled backgrounds, interrupted, disturbed parent relationships, anti-social and morally unstable parents, inconsistent discipline, broken families, time in institutions, and less breast feeding experience than neurotic children. Elles (13) described the closed psychic cir-

cuit of a delinquent family, members of which interacted with each other so as to predispose to criminal behavior and preclude effective psychiatric treatment. Harms (14) suggested a relationship between childhood hysteria and delinquency. An investigation (15-16) of possible effects of TV on children failed to find crucial evidence that violence and sexuality on television were causally related to pathology or delinquency, but indicated the need for further study. The diversity of theories relating to delinquency was further exemplified in papers invoking the theory of differential association (17), personal reference groups (18), and family disorganization (19). Bohlke (20) proposed a systematic study of middle class delinquency in order to check an increase due to technological change, population growth and social mobility. Nyquist (21) prepared a detailed exposition of the systems of juvenile justice in California and Sweden and Eisendrath (22) discussed jurisdictional problems in the handling youthful offenders in Illinois. Caldwell (23) recommended more flexible machinery in juvenile trials and a more realistic view of the relationship of juvenile offenders to the community. Burns (24), describing residential treatment in England, saw "maturational effect" in a relatively benign environment as important. Alas, few American juvenile establishments provide such a salubrious atmosphere. Alt (25) depicted an outstanding example of private institutional care in the United States. McClintock (26) reported on the English experience, on the whole successful, with "attendance centres" for youngsters between 12 and 17 whose delinquency was relatively mild—"mischievous" rather than "malicious."

Bowman, Engle, and Mergener (27) reviewed significant developments in genetic and endocrinologic research in sex determination and predicted significant contributions to psychiatry and legal medicine from those fields. Moore and Edwards (28) recommended that when problems of intersexuality arise, an unequivocal medical decision based on cytological, endocrinological and physical findings as to the sex of patients with ambi-sexual development ought to be made as early in life as possible. Tong (29) discovered that galvanic skin

responses of disordered mental defective patients taking word association tests could differentiate Sex, Homosexual, Violent from Miscellaneous patients. Galdston(30) confirmed his previously reported hypothesis that the compulsive gambler could not truly love. Karpman(31) presented the case history and dynamics of a voyeur. Von Hentig(32) described fetishistic-like practices often associated with rape-murder. Two medicolegal surveys of sexual behavior problems appeared(33-34).

MacDonald(35) wrote about the murderer and his victim, Fireman(36) about the pre-acute crime milieu, and Banay(37) discussed organically determined violence, particularly automatisms associated with epilepsy. DeLong and Robins(38) noted that two thirds of patients hospitalized after suicidal attempts had previously communicated their intention to do so. Litman, Shneidman, and Farberow(39) found similar evidence that many suicides could have been anticipated and reported on the functioning of their now-famed Los Angeles Suicide Prevention Center.

A compendium concerning crime in the United States(40), a symposium on the sociology of crime(41), and a new edition of Reckless'(42) standard work on criminology were published, as were a collection of Glover's papers(43) ranging brilliantly over psychiatric perspectives on delinquency, Williams' authoritative *Criminal Law*(44), and a colloquium(45, 46) of 30 authors on the psychopathic personality, as well as a survey of the rarely-studied vandalism(47). Wechsler(48) reported on the sentencing and correction provisions of the highly significant Model Penal Code of the American Law Institute, of which he is the Reporter; Illinois'(49) newly-adopted criminal code showed its influence, particularly in its responsibility formula. Bellows, Bellows and Magidson(50) covered revisions in criminal law of the past decade including those pertaining to sexual offenders.

R. MacDonald(51) reviewed the problem of narcotic drug users and Edwards(52) reported a case of gasoline sniffing.

Raeburn, Brisby, and Scott(53) recommended simple presentation of the nature, relevance, treatability, and prognosis of the psychiatric difficulty in court. Hess, Pearsall,

Slichter and Thomas(54), and Rice(55, 56) gave legal-psychiatric views on competency to stand trial. Williams(57) cautioned that a test of insanity at the time of the trial should be distinguished from such a test applied to the earlier period of the offense itself. Overholser(58) examined the relationship of amnesia to the ability to make an adequate defense. Geis and Kamm(59) indicated limitations of drug induced statements in court processes.

Stimulated by a nagging social conscience, the Durham decision and the proposed American Law Institute formula, numerous articles debated the issue of responsibility(60-64). Krash(65) lucidly analyzed the Durham rule and its impact on the judicial administration of the insanity defense in the District of Columbia. Perhaps, he said, the "enduring significance of the Durham decision may be the reexamination of responsibility and the long-overdue reform of procedures dealing with insanity issues in criminal cases." Block(66) compared cases actually tried under M'Naghten with their "projected" results under Durham. The psychiatric consultants to the American Law Institute(67) explained their preference for Durham as permitting freer psychiatric communication. Overholser(68) indicated that it also protects the public better than the M'Naghten and American Law Institute formulations. Bernstein(69) showed inconsistencies when Durham was applied within the traditional framework of responsibility, and Duncan and Weiss(70) suggested statutory changes to alleviate unfairness. Lange(71) pondered the dilemma of finding a balance between reliable psychiatric opinion and proper protection of the civil rights of the accused. Blanc(72) refuted the objection that expert testimony invades the province of the jury, and proposed a flexible procedure for use of experts. Goldstein and Katz(73) commented on alleged violations of civil liberties inherent in commitment and retention of people for whom insanity defense has been invoked. Symposia on individual and collective responsibility in law(74), and the ethical and service obligations of law and medicine(75) were held. Board(76) offered "operational criteria" for a responsibility essentially hinging on deterrability, and the

Georgetown Law Journal(76a) proposed that the court ascertain whether the accused "committed the physical acts as charged," leaving it to a commission to decide upon therapeutic or restrictive disposition. Guttmacher(77) looked to a future when need for and response to treatment would take precedence over determination of responsibility, meanwhile opting for Durham. Wiseman(78), describing an unfortunate Massachusetts case, proposed that the psychiatrist might be more helpful in the post-trial phase; citing the same case, Neiberg(79) speculated on the dynamics of murder and suicide.

Hodges(80), from the viewpoint of a science of ethics for criminology, concluded that judgment ought to be adapted to different social classes of criminals. Schmideberg(81) took up the insufficiently studied phenomenon of the offender's attitude toward punishment, challenged the ubiquity of "wish for punishment," and held that the goal of psychotherapy was to make the offender more responsible and responsive to social pressures.

Weihofen and others at a University of Illinois symposium(82) surveyed psychiatric therapy in prison, and Hubbard(83) summarized advances in the use of psychiatry in law enforcement and correctional fields; Davies and Hess(84) illustrated the need for more rational and fair procedures in the parole return process of the mentally ill to prison. Keeler(85) described "signifying," a projective recognition of underlying significance in spoken communication, as a paranoid aspect of prison life. Coe(86) attempted to develop a predictive device for institutional adjustment. Hakeem(87) reported that trained probation officers were no more successful than laymen in predicting parole violation and that their prediction of non-violation was no better than chance. Marcus(88) attempted a factor analysis of some English prisoners, separating by class origins, by aggressive-passive axes and, possibly, prison adjustment.

Freedman(89) reported from an investigation of differential factors in the development and personality of sexual, aggressive, and acquisitive offenders, and, with collaborators, of clinical perception of sex deviates(90), and projective detection of ag-

gressive offenders(91).

Reports on treatment of social delinquents were diverse in theory and technique. Group therapy programs(92, 93) were tried on sex offenders. Pasc  e(94) found that psychopathic personalities with sexual deviation were most resistive to treatment. Newkirk(95) illustrated the use of synthetic estrogen in the treatment of male sex delinquents. Rachman(96) applied "faradic aversion" treatment to a man sexually aroused by women's buttocks and bloomers as an example of "behavior therapy." Bluestone(97) effectively used thioridazine (Mellaril) in the treatment of anxiety in prison inmates. Visser(98) reported successful psychotherapy in a case of infanticide. Chwast(99) emphasized dealing with social as well as personal factors in the treatment of offenders. Chwast, Harasi and Delany(100) pointed out that a therapist must be aware of lower class origins of delinquents with its reality and value implications and indicated advantages of group therapy amongst these adolescents with needs for group adherence and for nurturance experiences otherwise unobtainable.

Guttmacher's(101) 1960 published Isaac Ray Award Lectures discussed the psychology of the murderer as well as expert testimony and the patient's right to secrecy, and Judge Bazelon(102) delivered that Lecture for 1961 at the University of Chicago.

Mannheim edited biographies of pioneers in criminology(103), including that formidable twosome, Dr. Isaac Ray and Judge Charles Doe, and Rose(104) described penal policy in England and Wales during the past century, focussing on the reform activities of the Howard League.

In sum, there was reason for optimism that out of this diversity and fragmentation of theory, method, goal, and perceived fact concerning social deviancy and crime, the next years will see a consolidation of approach and a solidification of knowledge from which will spring scientific progress and social advantage.

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ADMINISTRATIVE PSYCHIATRY

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The two most significant events in administrative psychiatry during the past year were the publication of the report *Action for Mental Health* by the Joint Commission on Mental Illness and Health in March and the meeting of the Third World Congress of Psychiatry in Montreal in June. The former (1) calls for broad integration of patient care into the community with flexibility and individualization of all aspects from first symptoms to final achievement of maximum effectiveness for that person. Those who cannot read the complete report will want at least to familiarize themselves with its contents by studying the 10,000 word digest. A series of articles commenting on the recommendations appeared throughout the year, particularly in *Mental Hospitals*.

The Third World Congress provided an opportunity for psychiatrists to exchange ideas and to find out what others over the globe have experimented with and learned about patient care. MacLay of England predicted that the number of hospital beds needed in England for treating the mentally ill would decrease by 50% in the next 15 years, that the beds would be redistributed with much greater use of units in general hospitals, outpatient day hospitals, social clubs, and residential accommodations, and that the big mental hospital will disappear (2). How a psychiatric night hospital is staffed and run was described by Bierer and Browne (3). The senior co-author is of the opinion that the "shift hospital" program at Marlborough Day Hospital with day, night, and weekend arrangements is highly successful; he emphasizes that "therapeutic social clubs" with mandatory attendance by the psychiatrist and optional attendance by

any of his former patients are an important part of that program (4). Detailed information concerning each of the 65 day hospitals and day centers operating in Great Britain in 1959, which run the gamut from full psychiatric hospital programs to those that are simply social centers for the aged, with discussion as to the value and cost of such programs, was published by Farndale (5). Another survey of 9 transitional residences was made; 6 fitted the halfway house model and were compared with mental hospitals, boarding houses, and family care programs, while 3 fitted the work camp model (6). Huseth points out that there are many types of halfway houses: preventive, expatient, long-term, quarter-way, and mixed (7).

Attempts to break up the mental hospital colossus continue. The Saskatchewan Plan would replace the two mental hospitals of this Canadian province by small 150-300-bed regional psychiatric units attached to general hospitals (8). Another method as envisaged in Kansas and initiated in part at Clarinda State Hospital, Iowa, is to retain the hospital but reorganize it into sections of 100-300 patients each with its own psychiatric team which treats patients from a particular geographical area from admission to discharge (9). Each section will develop community clinics not only to provide after care but also to evaluate individuals for admission and furnish psychiatric services both therapeutic and preventive to the area served (10). A 550-bed county sub-hospital unit including day and night, pre- and post-hospital care has been functioning at the Hudson River State Hospital for several years (11). At the N.E. South Dakota Mental Health Center two psychiatrists and a social worker treated 500 patients per year from an area of 30,000 square miles with a

¹ Institute of the Pennsylvania Hospital, 111 N. 49th St., Philadelphia, Pa.

population of 120,000; patients were treated on the medical wards of a local hospital for an average period of less than one week with only 3% requiring transfer to the hospital and a resultant 27% decrease of admissions to the state hospital from the catchment area(12).

The development of urban community psychiatric services with the focus at the psychiatric section of a 1,000-bed general hospital (145 beds are psychiatric) was described by Bellak(13). This comprehensive community program utilizes 12 full time staff psychiatrists and 15 residents to provide a Trouble Shooting Clinic available 24 hours a day, psychiatric seminars for general practitioners, chaplains, lawyers, and consultation service for teachers, in addition to regular inpatient and outpatient treatment services. General hospitals which accept psychiatric patients have been steadily increasing and now admit more patients than do public mental hospitals(14), but they are not generally able to provide the same type of care that the psychiatric hospital can(15). Medical traditions were observed to obstruct the development of an effective mental health project in the Columbia-Washington Heights experiment (16).

Replies to a questionnaire survey of the "Open Door" policies in 26 (out of 40) hospitals in Canada, plus the Central Hospital, Warwick, and St. Lawrence State Hospital, N. Y., were reported by Wake(17). The manner in which the Open Door policy is administered, including the problem of criminal order cases, is detailed by the Superintendent of the St. Lawrence State Hospital(18). Editorial comment in the *Psychiatric Quarterly* points out that "open" has different meanings in different locales and that the only two completely open state hospitals in the U. S. A. are both rural(19).

An evaluation of the Nottingham statistics 10 years after initiation of an open door policy and a comprehensive community program showed that the staff's unanimous opinion that the number of first admissions of schizophrenics had decreased was quite erroneous but understandable in view of the greater increase of all first admissions and the decreased disturbed behavior and shortened stay of schizophrenics(20).

Traditionally psychiatric hospitals have been reticent not only in opening their doors to patients and the lay community but also to physicians other than those on a full time or small select staff. The recommendation that the logical extension of looking at psychiatric hospitalization as only a phase in the longitudinal course of psychiatric treatment is to open the psychiatric hospitals' doors to more psychiatrists and even general practitioners was made by Smith(21). The experienced and potential advantages and disadvantages were discussed in a special seminar in June(22).

Psychiatric administrators' problems can only be viewed in the context of the culture and its times. Legislative acts vitally influence the psychiatrist and these acts in turn are strongly influenced by social attitudes. The interaction of social policy and mental health services is clearly documented from England over a period of more than 100 years(23).

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MILITARY PSYCHIATRY

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The introduction of psychiatric services into the field units has continued with reorganization of mental hygiene clinics which orients them more closely to the field units. A wider participation in the disciplinary activities of the posts has been accomplished by means of the establishment of extensions of the mental hygiene clinic into the stockade.

Guttmacher(1) in the William C. Porter Memorial Lecture quoted Colonel Porter from a lecture in 1942 as follows:

The mission of the neuropsychiatrist is not only to select out the mentally unfit and to care for those who have developed a mental disorder and to eliminate them from the service, but he has the capacity, not yet fully utilized in our Army, to contribute to the mental health and morale of the soldiers by way of clinics, similar to nonmilitary clinics to which the soldier or officer in need of help in the early stages of maladaptation to military life may bring his problems for discussion and assistance.

He related personal experiences during his tour of duty and presented findings from the studies of Fry, Dollard, Appel, Ginsberg, Brill, and Beebe. He pointed out that the lessons of World War II have not been forgotten but have been implemented and further developed so as to fulfill the mission as stated by Colonel Porter. He expressed the belief that the military psychiatrist now is better prepared to meet any emergency that may come.

Glass and his associates(2) describe the current status of Army psychiatry which

fulfills Colonel Porter's expectations. There is an awareness that non-effective military behavior is more commonly the result of difficulties in the environment and in the interpersonal relationships of the soldier rather than a manifestation of individual psychopathology. This concept has been responsible for the gradual displacement of psychiatric personnel from their usual role and location in the hospital and clinic setting to the military community. The field approach has permitted a more realistic observation of the maladjustment processes. It has brought psychiatric personnel into working relationships with military supervisors and has facilitated the utilization of milieu as a major instrument in the development of techniques for prevention and treatment. Consequently, the army psychiatric program has been developed in three areas of endeavor : 1. Primary prevention ; this attempts to influence favorably the conditions under which soldiers live, work, and fight so that there would be less likelihood for disabling maladjustment. 2. Secondary prevention ; carried out by the early recognition and prompt management of emotional or behavior problems on an outpatient basis while the individual is still a member of his unit and struggles to cope with his environmental situation. 3. Tertiary prevention ; employment of milieu as the principal therapeutic tool for persistent and severe mental disorders requiring hospitalization.

In order to prevent the recidivism of military offenders, stockade screening techniques were elaborated into an army-wide program in which Mental Hygiene Con-

¹ 490 Peachtree St., N.E., Atlanta 8, Ga.

sultation personnel make regularly scheduled visits to the stockade. Prisoners restored to duty are given assistance by the field social work personnel with problems of unit reintegration. Mental Hygiene Service personnel meet periodically with the confinement staffs to discuss techniques, attitudes, and other measures which may enhance the correctional atmosphere of the stockade. Statistical data are submitted which indicate that the program has made significant contributions toward achieving the lowest recorded psychiatric hospitalizations and medical discharge rates.

Remington(3) describes the re-organization of the Mental Hygiene Consultation Service at an Army post along the current concepts of modern social psychiatry. The mental hygiene clinic was so organized as to avoid duplication of work and to utilize most effectively the personnel of the clinic. The services were extended to the field by work with the units and in the stockade. By a more effective use of social work officers and social work technicians, consultations were held in the units in facilities provided by the unit. Where individuals were seen who could not be helped by case work methods alone, the psychiatrist was called upon. In the stockade a social work technician prepared background information on each confinee which the psychiatrist used in the evaluation of the prisoner. Because the services were rendered in the field, more units and individuals were served than previously. A closer relationship was developed with the line personnel, more direct lines for consultations were established, and greater assistance was given to the unit commanders and the confinement officers in their dealing with soldiers in their charge. There was avoidance of wasteful duplication of effort with a greater sense of achievement and responsibility for all clinic staff members.

Ginsberg(4) from a study of fifty consecutive referrals to the psychiatric clinic concluded that the predictive ability of psychiatrists is hampered by a lack of information concerning situational and environmental stresses and failure to give consideration to them. He believes that too much stress and importance are given to the clinical diagnosis and existence of psy-

chopathological trends. He noted that psychiatrists find themselves predicting adjustment without consideration of the exact situations to which the individual will be attempting to adjust and without assessing his vulnerability to specific stresses. His studies revealed that there was a higher incidence of non-effectiveness due to situational factors and interpersonal stresses than to other factors.

Cahill(5) described an orientation program for general medical officers in use at St. Albans Naval Hospital. The objective was to train general medical officers in a practical approach to the management of the specific types of psychiatric problems most likely to confront them in their duty assignment. He considered it important that general medical officers be so prepared in view of the fact that decisions might have to be made one thousand miles at sea where no specialist consultation services would be available. He presented an outline of the approach which deals with symptoms rather than with the more theoretical or diagnostic aspects of mental problems. Practical suggestions were given. By personal follow-up, he found that general medical officers oriented in this manner had performed effectively in their duty assignments.

A new source of psychiatric consultation referrals is introduced by Bowers(6) and his associates, surgeons, who relate their experience with hypnosis in the care of surgical patients. In an effort to reduce anxiety prior to surgical procedures, alleviate post-operative pain and hasten rehabilitation, hypnosis was used in a consecutive series of nine cases undergoing uncomplicated arthrotomy of the knee. In a series of 9 patients with a variety of surgical problems, successful application was made in 5.

The hypnosis was carried out by the operating surgeons or the surgeon in charge of the postoperative course of each patient.

The use of hypnosis was limited to symptom removal except in one instance where surgical anesthesia was induced. Depth was limited to that needed for post-hypnotic suggestion. Inattentiveness to pain was found to be an effective and realistic suggestion.

In presenting the procedure to the patients, the term hypnosis was not used, but

the procedure was referred to as relaxation. In the series of patients reported on by the authors, the following method was employed: a brief psychiatric history was taken by the surgeon or the surgical ward officer; where there were doubtful findings, psychiatric consultation was requested; the results in the series of cases indicated that the time expenditure was justified in exchange for an average 19-day shortening of the period of recovery.

Giffen(7) described the characteristics of the drugs commonly used in psychiatry, giving their effects and side effects. He concludes that the proper utilization of psychopharmacological drugs accounts for the average patient's stay of 12 days. He believes that with the use of the drugs he can within the first few days of hospitalization start the patients on constructive plans whether it be continued military service or separation. It is his opinion that with early and adequate medication by outlying medical units, better results can be obtained.

The *Index Medicus* for 1961 reveals a continued interest in military psychiatry in foreign countries(8).

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PSYCHIATRIC EDUCATION

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The major challenges to psychiatric education in the decade ahead are well underlined in the Final Report of the Joint Commission on Mental Illness and Health, *Action for Mental Health*(1): "The mental health professions need to launch a national manpower recruitment and training program, expanding on and extending present efforts in seeking to stimulate the interest of American Youth in mental health work as a career." From the standpoint of psychiatry the main bottleneck to increasing the number of professionals appears to be most immediately at the medical school level. For the third successive year there has been a small decrement in the number of appli-

cants to medical schools. During the 6 years, 1954-1960, graduate school enrollment in psychology increased 32%, mathematics 110%, social science 26%, while medical school enrollment increased only 7%. The current prediction is that the decrease in applicants will probably continue and become more serious(2).

Economics appear to be a major factor in decreasing the number of high quality candidates available for medical school. Generally speaking, the average medical student spends twice as much for his four years of graduate training as does his colleague in arts and science graduate work. Scholarships, if available at all, are generally only one-quarter the amount of those received by graduate students in other fields. This cre-

¹ Denver, Colo.

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ates an eight to one fiscal ratio in favor of the college senior entering arts and science graduate school rather than medical school (3). The Association of American Medical Colleges has suggested that the students' cost for medical education has begun to outrun the financial resources of even comfortably well-to-do families.

Partly motivated by our need of more graduates than our own medical schools can furnish, we have encouraged progressively more foreign medical graduates to come to the United States for training. In many ways this has been highly desirable and has brought bilateral benefits but as the Director of Medical and Natural Sciences of Rockefeller Foundation has recently pointed out, it has placed us in a very paradoxical position. As we go forth to improve medical education in underdeveloped countries, we suddenly wake up to find ourselves relying on the products of the medical schools of these same countries to staff the non-teaching hospitals in our great cities (4).

The problem of finding adequate personnel for medical school faculties continues to be a pressing problem. The Dean of the University of Virginia School of Medicine has recently pointed out one of the major limiting factors in our whole forward motion is a shortage of people capable of creative thinking. Unfortunately our system works to rapidly elevate its more creative faculty into administrative jobs away from thinking, teaching and research activity. He suggests that with the increased flow of money we are rapidly approaching a period where limitation of financial support will not be our major concern, that very soon our major limitation will be "manpower, people of talent and people of ideas" (5). Another educator in the third Alan Gregg Memorial Lecture noted with deep concern the rapidity of social and economic change and the frequent inability of those of us in academic medicine to remain familiar with the vastly altered patterns of health services and needs in the community. "We must remember that we teach not only the student of tomorrow but the student of the next several decades" (6).

UNDERGRADUATE PSYCHIATRIC EDUCATION

One possible answer to the need for more

medical school graduates may come from the consolidation and shortening of premedical and medical school training. One of the most recent programs is that at Northwestern University. In the fall of 1961 Northwestern began a pilot program for highly talented high school graduates which can lead to the granting of a medical degree within 6 years or a combined Ph.D. and M.D. degree in 9 years. Not only is the curriculum short time-wise, but an attempt is made to provide a liberal education with much more emphasis on social sciences and the humanities. The Northwestern faculty hopes that this will decrease those aspects of a physician's education that lead to making him "an alienated and isolated individual" (7). Hopefully this type of curriculum will help to improve the competitive position of medicine in relation to other graduate schools in the fight for talented students.

The first careful sociological study of a university medical school was published (1961) under the title, *Boys In White* (8). This was carried on for a number of years at the University of Kansas School of Medicine, and while relatively little attention was paid specifically to the role of psychiatry, there is nonetheless much to recommend the book to the teaching psychiatrist. The study suggests that we might run a "better" medical school if we succeed in arriving at a better fit between the students' expectations and perceived needs and what the faculty feels they *should* learn. There are also hints as to ways in which we might not only attract more medical students into the specialty of psychiatry but also increase their understanding of feelings and emotions in human affairs. For example, the study makes it clear that the student highly values clinical experience and situations that allow him to exercise "medical responsibility." Often the faculty appears not to appreciate this "practical" direction and provides too few opportunities from the student's standpoint. Thus clinical teaching in psychiatry which puts a significant responsibility for decision-making on the student (under supervision), might satisfy the student's need in his clinical years and improve his impression of psychiatry as a field of specialization.

Many schools are looking more closely at

the basic science curriculum and methods of teaching. Darley has underlined our need as medical educators to look at the problems of teaching *per se*—what motivates students to learn and what are the technics for influencing this motivation(9). An annual summer seminar on medical teaching is sponsored by the Association of American Medical Colleges. Whether it is possible to create a greater sense of compassion by the introduction of psychology and sociology into the basic science curriculum is a question recently raised. Unfortunately so often the teaching of these subjects during the first 2 years is lost through the lack of attempts to integrate them later in clinical teaching, making them a part of the "medical student culture"(10). This integration has to be accomplished in clinical teaching, and particularly in medicine and surgery. Work at the University of Louisville suggests that the training of medical students in a comprehensive care program, with a family health emphasis, tends to decrease cynicism in medical students and to increase their valuation of team work between specialties(11). Gaskill sees the importance of introducing the concept of transference-countertransference into general medical school training. This teaching in medical school cannot be done exclusively by the psychiatrist but must be presented repeatedly by the surgeon and internist(12). That the psychiatrist may be able to get this message across working closely with other specialty faculties is suggested by another study at the University of Louisville. There the psychiatrist functions as a member of the surgical faculty, attending clinical conferences, ward rounds and seminars. This down-to-earth attempt at integration between psychiatry and other medical specialties seems to have much to recommend it(13). The teaching of non-pathological behavior and development in pediatric clinical clerkships seems to be another worthwhile attempt at better integration of psychiatric concepts in medical training(14).

One recent study indicates the value of teaching "interpretive psychotherapy" as an introduction to clinical psychiatry(15). Benjamin believes that it makes the teaching of psychiatry and psychology more understandable and acceptable to medical stu-

dents if we distinguished what we know, what we think we know, and what we don't know, and if we communicate these distinctions in teaching. He suggests further that we give evidence for our knowledge and minimize teaching by authority(16). It is encouraging to note from a recent review of the teaching of psychiatry in British medical schools that they are struggling with the same general problems and approaching solutions in very similar ways. There are suggestions that they may not have resolved many of the issues as satisfactorily as our more advanced programs have(16a).

Problems of stress and mental illness in students came in for study during the year. A careful look at 40 sophomore medical students at Washington University in structured psychiatric interviews indicated 15% showed significant psychiatric illness. In the pre-examination periods the group as a whole developed the "scared soldier syndrome," with clear-cut anxiety symptoms(17). Blaine and MacArthur edited a comprehensive book on the *Emotional Problems of The Student*. This book covers various aspects of the problem at college and graduate student levels. Samuel A. Bojar reports on the special emotional problems of medical students. Other sections deal with the value of group and short-term individual psychotherapy for disturbed students(18).

GRADUATE PSYCHIATRIC TRAINING

A number of the specific recommendations of the Joint Commission on Mental Illness and Health require very special consideration by psychiatric educators. "A National Mental Health Program should recognize that major mental illness is the core problem and unfinished business of the mental health movement, and that the intensive treatment of patients with critical and prolonged mental breakdown should have first call on fully trained members of the mental health profession"(1). How adequately are we currently training residents to meet these problems? What percentage of residents' training time and experience are spent in mastering techniques for dealing with psychotics?

"The objective of modern treatment of persons with major mental illness is to enable the patient to maintain himself in the

community in a normal manner"(1). How much time is being devoted to training residents in the operations of aftercare clinics, day hospitals, and in consultation functions to halfway houses and rehabilitation centers? How much time in the residents' training is being devoted to techniques of applied social psychiatry and milieu therapy? What techniques are we developing to help the resident in overcoming the natural reluctance of many physicians to become administrative therapists?

In Chapter III of *Action For Mental Health*, entitled "Rejection of the Mentally Ill," an excellent sub-section deals with the problem of "Rejection by the Learned"(1). This includes the rejection of the psychotic by psychiatrists. What can be done in the training of residents to prevent this attitude from developing or to counteract it once it has developed? The above questions represent challenges to the professional psychiatric educator, and problems we must meet if we are to solve the major crises facing psychiatry today.

Hoch and Rado describe an effort to make training in a state hospital system more desirable and valuable. The New York State Department of Mental Hygiene has set up the New York School of Psychiatry—a pilot center for education of residents from a group of state mental institutions in the Metropolitan New York area. Last year 77 residents were in training in this system (19). Felix, in a speech at the Menninger Foundation, indicated the great public demands that are made on the psychiatrist as a "practicing social scientist," necessitating the reassessment of much of his training to meet the new movement of psychiatry into the community(20). A study on the West Coast outlined the techniques of supervised training of psychiatrists as mental health consultants to school systems as certainly an important way to bring psychiatry to the community(21).

This year the National Institute of Mental Health assessed professional characteristics of personnel trained under N.I.M.H. training grants, from 1947 through 1959. In psychiatry 48% are now in private practice, but of these all but 4% have secondary activities in teaching, consulting and institutional clinical work. The report suggests a possible

trend among younger N.I.M.H. supported psychiatrists away from private practice and into institutional practice. Of psychiatrists trained between 1948 and 1951, 65% are in private practice and only 5% in institutional work, while of those supported from 1956 to 1959 only 40% are in private practice with 29% in clinical institutional work(22).

A North Carolina study shows the tremendous teaching potential of state hospitals when properly utilized. Ham reviews the relationship that has been developed between the North Carolina state hospitals and the University of North Carolina Department of Psychiatry not only for resident but also for medical student training (23).

Again with the Joint Commission's emphasis on the need for expanding psychiatric research, it is encouraging to find articles on research training in psychiatry. Redlich presents a very personal summary of his experiences at Yale University in creating a "research atmosphere." How to find the right men, how to train them, how to provide an opportunity for them to be productive is the major problem. He wisely realizes that part of the solution involves reducing administrative duties(24). Hamburg reviews recent trends in psychiatric research training for N.I.M.H. and believes there is a healthy and changing climate for more research training. However he points out that many programs are geared to training for private practice and that there still exists in psychiatry a general attitude that basic knowledge is "pretty clear." He picks out the training program at Michael Reese Hospital as an example of the way research training can be built into a psychiatric residency(25).

The problems of psychoanalytic education in the U. S. have been comprehensively reviewed by Lewin and Ross. The book traces historically the development of analytic training in Vienna and Berlin and its progress to the present day American institute. The book results from a 3-year study(26). The New Orleans group presents a long and useful report on the integration of psychiatric and psychoanalytic training during the last decade at Tulane. There psychiatric residency training and psychoanalytic training have been almost completely integrated

for 10 years. They reach the following conclusions :

1. The desire for psychoanalytic training among residents is far out of proportion to social needs—considering shortages of psychiatric educators, administrators, hospital physicians, *etc.* (Only 4% of 1,050 applicants to their outpatient clinics were suitable for psychoanalytic therapy.)

2. Interest in psychoanalytic training is still high among their residents although decreasing in recent years. Of 62 residents trained during the 10-year period, 29 continued in psychoanalytic training.

3. As psychoanalysis becomes better integrated into psychiatry, the need to consider psychoanalysis as a distinct sub-specialty is nullified(22).

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REHABILITATION AND OCCUPATIONAL THERAPY

WARREN A. MANN, M.D., AND WILLIAM B. TERHUNE, M.D.¹

In previous years much of the literature on rehabilitation of the mentally ill has dealt with defining where treatment of illness ceased and rehabilitation began, and there has been a great deal of rivalry between the disciplines involved. It is encouraging to note that in this past year the literature has indicated a *rapprochement* of these various disciplines with the announcements of pilot projects and new research programs. This is particularly significant since it reflects a transition from

arguing to doing something. In many articles it seems accepted procedure to consider that rehabilitation may begin with the first contacts with the patient. More often now treatment and rehabilitation are coordinated so as to minimize the patient's separation from his usual role in society.

Several meetings devoted to psychiatric rehabilitation have been announced or reported during the past year. Papers which were presented at the Symposium on Psychiatric Rehabilitation as a part of the fifth annual meeting of the Eastern Psychiatric

¹ Silver Hill Foundation, New Canaan, Conn.

Research Association, have now been published(1). The eighth annual workshop of the Conference of Rehabilitation Centers and Facilities(2) had as its theme, "Preparation for living, a goal of rehabilitation." Also of interest was the announcement(3) that the annual meeting of the President's Committee on Employment of the Physically Handicapped featured a session on advancing public understanding of the competence of former mental patients to return to positions of responsibility and service. It is equally important to note that the Office of Vocational Rehabilitation has been sponsoring a series of workshop conferences on vocational rehabilitation of psychiatric patients during the past two years(4). The purpose of the meetings is to share the knowledge of persons conducting special programs and to provide an opportunity for representatives of the various disciplines involved to discuss methods by which their combined efforts might be made more effective.

As usual, many articles deal directly with the problems of vocational rehabilitation and job placement. The Philadelphia State Hospital began a program in the fall of 1960 entitled "The Prep Shop"(5). The program is designed to be one of the final readjustments of institutional life, aiming at successful re-entry of the patient into the workaday world. The patients chosen undergo a 4-week probationary period, during which they make adjustments and are rated in an advanced but somewhat sheltered working situation. If a patient is retained, he is transferred to the actual workshop during the fifth week, is paid an hourly rate, and experiences working conditions closely related to those in the outside world. Griffith(6) describes the program at the Massachusetts Mental Health Center which is organized to give the patient a course of work adjustment. In this program patients are placed in the more than 100 jobs offered by the hospital, following much the same procedure in applying for a job as does any prospective employee in industry. Counseling is one of the most important aspects of the work program, and it is believed that success depends more upon the counselor's personal qualities than on the use of specific techniques. In the program at the Fulton,

Missouri State Hospital vocational rehabilitation begins on admission and is followed through the course of therapy, as described by Baur(7).

Other papers reviewed consider particular problems of placement. Martin and Schaefer(8) describe the former mental hospital patient as a displaced person since the continuity of his functioning within society has been interrupted. Oseas(9) discusses work in its relation to mental illness and health, treating it in historical perspective, categories of approach, and therapeutic potential. Among the considerations of the Symposium on Psychiatric Rehabilitation(1) is Pinner's paper in which she cites failures in employment placement resulting from uncertainty about who should assume this responsibility. A project is described in which the New York State Department of Mental Hygiene hired an employment specialist who worked with the Brooklyn Aftercare Clinic and the Brooklyn State Hospital. His major contribution was the determination of employability and placeability based on current knowledge of industrial needs and practices. Pinner feels that too often the vocational rehabilitation program and the job placement activities are divided among different agencies, and that progress is impeded by the reluctance of rehabilitation workers to include former mental hospital patients. This same problem is mentioned by Olshansky(10) in a paper which has aroused an unusual amount of interest, both pro and con, as indicated by letters to the *Journal of Rehabilitation*. Margolin(11), Salzberg(12) and Wolfe(13) aim at attitudes of employers toward people recovering from emotional ills. None of these papers, however, has mentioned as an important factor the uncertainty about insurance coverage or compensation which, in the experience of the reviewers, has been prominent in determining employer and industrial physician reluctance. Since hospital readmission rates seem to have been affected where patients receive intensive preparation and follow-up (12% compared with 50% overall rate), the Veterans Administration is now planning a national program of controlled studies of hospital and community factors which best contribute to the vocational rehabilitation of

the mentally ill(14).

A number of papers dealing with research in psychiatric rehabilitation have appeared. Among these Landy(1) outlines the problems of design and execution of research. Brooks and Deane(15) review a great deal of the recent work and provide an excellent bibliography. In Oregon there has been a 3-year research and demonstration project to determine the effectiveness of a comprehensive rehabilitation program for mental hospital patients. The results should be useful to workers in this field (16). An interesting program was conducted at the Massachusetts Mental Health Center and reported by Evans, Bullard and Solomon(17), in which families of chronic schizophrenic patients were studied to determine their potential role in the patients' rehabilitation and discharge. The report of Wheat and Slaughter's pilot study(18) concludes that the effectiveness of the rehabilitation of chronic psychiatric patients is directly related to the degree of coordination achieved by the interdisciplinary rehabilitation team, and describes how group meetings may eliminate the problems previously confronting the team. Another research project is reported by Reiser and Waldman (19) focusing on intensive group psychotherapy with varying techniques.

Also of interest to workers in psychiatric rehabilitation is the announcement(20) that the Philadelphia State Hospital has been designated by the American Psychiatric Association as the National Training Center for Remotivation, using a group discussion technique in the rehabilitation of mental patients.

Again this year the contributions of the day care center to rehabilitation have occupied the interest of many. A book by Farndale(21) provides a record of facilities actually existing in Great Britain in terms of day care centers. Steiman and Hunt(22) report their experience at the Hudson River State Hospital, noting favorable public acceptance, while Carmichael(23) found more concern about stigma and lack of acceptance in the New York City aftercare clinics and day hospital. Bierer and Browne (24), in reporting on a pilot project with a night hospital in Great Britain, state that this type of facility can prevent breakdowns

in some patients by allowing them to remain at work, not jeopardizing their chances for promotion through absenteeism or the stigma connected with mental illness.

A new term has found some acceptance this year in the literature. Previously called "halfway houses," the facilities standing between hospital and home have recently been referred to as "transitional residences." Wechsler(25), in a survey of such facilities, divides the 9 currently existing residences in the United States into two major categories—"halfway houses" and "the work camp model." He discusses these in detail and concludes that it is too early to evaluate their effectiveness, but that they are a vital part of the new programs of community treatment. Huseth(26) reviews a number of halfway houses in the United States and Great Britain, dividing them into four groups: for prevention, for ex-patients, for alcoholics and for mental defectives. The Veterans Administration is encouraging establishment of halfway houses where there are VA hospitals in the community(27). In Los Angeles, ground has been broken for The Gateways Hospital, actually set up as a giant halfway house(28). Sacks(29) discusses factors essential to setting up a transitional program, then describes existing special programs at the Brockton VA Hospital, including patient-government, member-employee, and foster home cottage.

In Great Britain, too, psychiatric rehabilitation has continued to be of considerable concern. Laughlin(30) reports generally on the provisions of the new Mental Health Act which became operative in the fall of 1960. Tibbetts and Harbert (31) and Wadsworth, Scott and Wells(32) discuss efforts with long-term patients. Cooper(33) addresses the same problem with emphasis on tranquilizing drugs as the primary attack, social methods secondary. Remploy, an organization in England which employs some 6300 handicapped workers in 90 factories, is instrumental in the rehabilitation of schizophrenics(34). A similar program is reported by Early(35). Ferguson(36), discussing the side effects of community care, touches on a corollary problem which is worthy of note. He points up the tremendous need for additional personnel in community psychiatry and states

that the community psychiatrist is now so rushed that people who could be carried as outpatients are sacrificed because their time with the psychiatrist is reduced by the number of people competing for it; and often they have to be brought into the hospital for reasons other than their intrinsic need. The author believes that this increased demand is due in large part to the fact that there is a tendency for other physicians to refer patients to the psychiatrist more readily because of his accessibility in the community. Another contributing factor is the appearance in the community of chronic and partially remitted schizophrenics who lived comfortably in the hospitals, but who became social deviants without the protection of the hospital and, therefore, may be a time-absorbing part of the psychiatrist's everyday work.

Touching on a different approach, Barrett(37) mentions the use of volunteer workers in the rehabilitation process and ways in which they help to reintroduce the patients to the community. This same topic is discussed by Overholser(38) who points out that an altruistic interest from a non-professional may be of unique value to the patient.

Prominent among this year's publications is the final report of the Joint Commission on Mental Illness and Health, *Action for Mental Health*(39). In the field of rehabilitation it offers no new ideas but reflects much of the comment previously reported and suggests further research.

Some of the publications concerning occupational therapy this year deal with standardization of observations. Wolff(40) comments on the use of the Minnesota follow-up Study Rehabilitation Rating Scale for research and clinical evaluation of patients. Blustein(41) uses a Social Adaptability Test in measuring recovery.

Experimentation with attitudes and effect on behavior is reported by Pishkin, Mackenthun and Stump(42). Similarly Jensen and Kirshbaum(43) report results at Denver. Evolution of an unstructured program at Mount Sinai is described by Gabriel, Shamah and Linn(44) in which completion of projects is used as an objective measure of progress. Use of control groups to evaluate the effectiveness of a program is mentioned

by Conte, Otero and Gladfelter(45). Detre and his group(46), in a description of general hospital care of the psychiatric patient, discuss extension of the occupational therapist's role in various activities.

In work with children, Brower(47) discusses the role of the occupational therapist working with the mentally retarded, and Weston(48) suggests craft work as a therapeutic tool.

A book which has come to our attention is especially applicable to the interest of physicians. This is a reference manual compiled by the American Occupational Therapy Association(49) giving an orientation to occupational therapy as well as the functions, scope of therapy and standards.

Wayne(50) reports extensively on work therapy in the Soviet Union as observed at the Bechtrev Institute in Leningrad. In contrast to occupational therapy in the United States, work therapy utilizes patients' efforts in the production of materials for practical use. Shops are miniature factories producing marketable merchandise. The aim of the program is to get each worker back to his job with his basic skills unimpaired. In vocational training less emphasis is placed on particular aptitudes and more emphasis on response to the total situation. Although the program is not considered directly applicable to situations in the United States, it is suggested that manufacture of quality products might enhance self-esteem and prepare patients for competitive work.

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COMMENTS

EUROPEAN CHILD PSYCHIATRY

Kanner,¹ in his knowledgeable and understanding fashion, has called our attention to the lack of reciprocal interest and communication with our fellow child psychiatrists abroad. During the academic year 1959-1960, while on sabbatical leave from the University of Minnesota, it was my good fortune to visit ten countries of Western Europe and Great Britain. The primary objective of this study tour was to visit University medical centers where child psychiatry is an integral part of the total teaching program and to discuss with those in charge areas of mutual interest. The year's tour was stimulating and thought provoking.

What is the present situation? Those acquainted with European universities recognize the importance a "chair" holds. At the present time, four universities support "chairs" of child psychiatry. It will not be long before other universities will add to the number.

With the exception of England, child psychiatry is an integral part of the teaching, research, and service programs of the majority of universities visited. Active, well-organized inpatient psychiatric services for children, varying in bed capacity from 8 to 120, are in operation, as well as active outpatient services. Several European universities have new facilities of contemporary design which would be the envy of any of us. Others are in the planning stages.

Medical students are being taught the fundamentals of growth and development, as well as the everyday problems of the child. One country, Sweden, requires the

medical schools to teach students 15 hours of child psychiatry. The student must successfully pass an examination in this subject before being eligible for graduation.

Training programs for career child psychiatrists are being formulated. Some of these are rigorous by any standards.

Research into every sphere of child life, from development to possible causes for deviations, is under way. The reprints and books which were presented to me attest to the spirit of inquiry prevalent in every center.

Careful consideration is being given to translating lessons learned in the hospitals to the larger community. The ultimate goal is an effective program of preventive mental health services.

Of interest was the significant number of leading child psychiatrists who have either visited in the United States or who have had training here. Percentage-wise, they outnumber those of us who have spent time in European centers; the disadvantage is ours.

The keen interest manifest everywhere, the thoughtful consideration being accorded current problems, and the bold plans for the future opened this observer's eyes.

An exciting ferment is being generated by our European colleagues all along the line. We, in America, would do well to acquaint ourselves with them and their programs. We need to develop a comprehensive system of exchange; it would enrich all concerned.

By no means do we, in the States, have a "corner on the market."

Reynold A. Jensen, M.D.

¹ American Child Psychiatry Ltd., Am. J. Psychiat., 116: 1040, May 1960.

VOICES

There is a sort of transcendental ventriloquy through which men can be made to believe that something which was said on earth came from heaven.

—GEORG CHRISTOPH LICHTENBERG

NEWS AND NOTES

MEDFIELD STATE HOSPITAL APPROVED FOR RESIDENCY TRAINING.—The American Medical Association has approved application of the Medfield State Hospital at Harding, Mass., for accreditation of its three-year psychiatric residency training program.

The Medfield State Hospital is the fourth state hospital in Massachusetts to obtain three-year approval.

THE AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY, INC.—The following are those who were certified in the sub-specialty of Child Psychiatry at the Board meeting in October 1961:

Ackerman, Nathan Ward, M.D., New York, N. Y.
Barger, William Calvin, M.D., Long Island, N. Y.
Boatman, Maleta J. H., M.D., San Francisco, Calif.
Bolder, Waldemar Harris, M.D., Binghamton, N. Y.
Bridgman, Olga Louise, M.D., San Francisco, Calif.
Coolidge, John Coit, M.D., Boston, Mass.
De Fries, Zira, M.D., New York, N. Y.
Drayer, Calvin Searle, M.D., Philadelphia, Pa.
Hanson, Harold Birger, M.D., Minneapolis, Minn.
January, Mildred Harshorn, M.D., West Hartford, Conn.
Kemble, Robert Penn, M.D., Morris Plains, N. J.
Missildine, Whitney Hugh, M.D., Columbus, O.
Pacella, Bernard L., M.D., New York, N. Y.
Perkins, George Lionel, M.D., Chicago, Ill.
Ritvo, Samuel, M.D., New Haven, Conn.
Sloman, Sophie Schroeder, M.D., Oak Park, Ill.
Tarrasch, Hertha, M.D., Janesville, Wis.
Teplitz, Zelda, M.D., Chicago, Ill.
Vaughn, Warren T., Jr., M.D., San Mateo, Calif.
Wheeler, Doris Phillips, M.D., Evanston, Ill.
Winlock, Rachel Mulford, M.D., Bethlehem, Pa.

DR. FELIX RECEIVES ROCKEFELLER AWARD.—Dr. Robert H. Felix is one of five Federal officials who on December 7, 1961 at a luncheon in Washington received the ninth annual Rockefeller Public Service Award for distinguished services. This reward carries a tax free grant of five thousand dollars.

Dr. Felix entered the Public Health Services in 1933, and when the National Institute of Mental Health was founded within that Service he was appointed the first director, a position which he still holds.

The Rockefeller Award is a fitting recognition of Dr. Felix's excellent administration of his high office in the Public Health Service and thus within the Department of Health, Education and Welfare.

He has brought great credit to the American Psychiatric Association of which he has

been a Fellow since 1935 and upon which he conferred distinction as President for the year 1960-1961.

HOSPITALS SELECTED FOR COMPETENCE IN DRUG SCREENING.—Of fourteen hospitals, selected by the National Institute of Mental Health for particular competence in early screening of new drugs, there were twelve in the U. S. A., one in France and one in Canada, the Verdun Protestant Hospital.

DR. BERNARD WORTIS HONORED.—Dr. S. Bernard Wortis, dean of New York University's School of Medicine and the Post-Graduate Medical School, received one of four 1961-62 Achievement Awards from the Heights Colleges Alumni Association of New York University at the Association's fourth annual dinner on November 14, 1961. The alumni award is for outstanding business and professional achievement.

Dr. Wortis, a member of Phi Beta Kappa, was graduated from NYU's University College of Arts and Science in 1923, and was appointed dean of two of the University's Medical divisions in 1960.

CARL GUSTAV JUNG MEMORIAL MEETING.—The New York Association for Analytical Psychology and the Analytical Psychology Club of New York held a memorial meeting to honor Dr. Jung on the evening of December 1, 1961, at The New York Academy of Medicine, New York City.

The speakers were Dr. Eleanor Bertine, Prof. John Billinsky, Dr. M. Esther Harding, Mr. Fowler McCormick, Mr. Paul Mellon, Prof. Henry Murray, Prof. F. S. C. Northrop and Prof. Paul Tillich.

SOCIETY FOR ADOLESCENT PSYCHIATRY.—Officers for 1961-62 of this Society, engaged in the study and treatment of adolescents, are William A. Schonfeld, M.D., President, White Plains, N. Y., Bertram Slaff, M.D., Vice-President, New York, N. Y., James

Toolan, M.D., Secretary, New York, N. Y., and Lothar Gidro-Frank, M.D., Treasurer, New York, N. Y.

Galesburg State Research Hospital, Galesburg, Ill., Conference Chairmen, Advisory Board of the Manfred Sakel Foundation.

NATIONAL ASSOCIATION FOR MENTAL HEALTH.—Frazier Cheston, manager of distribution for Smith Kline & French Laboratories, Philadelphia, Pa., was elected president at the Association's 11th annual meeting. He will continue also as a member of the board of directors to which he was elected in 1959.

AMERICAN ORTHOPSYCHIATRIC ASSOCIATION.—The 39th annual meeting will be held in Los Angeles, March 21-24, 1962, at the Los Angeles-Biltmore Hotel.

Major emphasis will be on ways of collaboration between specialists.

The first meeting will be a joint session with the World Federation for Mental Health, with the chief address by Dr. Paul Sivadon of France. At the Thursday program on Community Action the presidential address will be given by Dr. Fritz Redl.

Later panels will include The City and Mental Health with Dr. Erich Lindemann, Robert Weaver (U. S. Housing Administration), Paul Ylvisacker (Ford Foundation), and others. There will be special sessions on the Ecology of the City, Adolescents and Delinquency, and The Schools and Mental Health.

A particularly wide program is provided for this first meeting of the Association in Los Angeles. For further information write to American Orthopsychiatric Association, Inc., 1790 Broadway, New York 19, N. Y.

THE MANFRED SAKEL FOUNDATION ANNOUNCES ITS 2ND INTERNATIONAL CONFERENCE.—This Conference will be held in New York City in October 1962, exact dates to be announced. The topic of the conference will be "Biological Treatment of Mental Illness."

Scientists from America, Europe, and Asia will participate. Original research papers are invited.

For more detailed information, write to Max Rinkel, M.D., Massachusetts Mental Health Center, 74 Fenwood Road, Boston 15, Mass., or to Harold E. Himwich, M.D.,

INSTITUTE FOR ADVANCED PSYCHOANALYTIC STUDIES.—Establishment of this Institute has been announced and its members will meet at the Nassau Inn, Princeton, N. J.

The Institute is autonomous yet connected with the "main stream" of psychoanalysis. The setting is in a convenient yet non-urban area where scholars will teach and work with scholars in an atmosphere free from various pressures.

During the 1961-1962 Academic Year Dr. Robert Waelder will be in residency for three weeks, and will be followed by other resident members of the Princeton Study Group.

NATIONAL ADVISORY MENTAL HEALTH COUNCIL.—Surgeon General Luther L. Terry of the U. S. Public Health Service has announced the appointment to the Advisory Mental Health Council of Dr. J. R. Ewalt, professor of psychiatry at Harvard Medical School, and Dr. G. C. Ham, professor of psychiatry, University of North Carolina, School of Medicine.

The term of service of the new appointees is 4 years, from October 1, 1961. They will advise and instruct the General Surgeon on research training sponsored by the National Institute of Mental Health. The Council is composed of 12 members who are leaders in medicine, science, education, and public affairs. Ex-officio members are the General Surgeon of the U. S. Public Health Service, chairman, and one member each from the Veterans Administration and the Department of Defense.

GRANT TO RESEARCH FOUNDATION OF CHILDREN'S HOSPITAL, D. C., AWARDED BY THE EPILEPSY FOUNDATION.—This grant was awarded to promote a study of a method for detecting epilepsy in infants. Dr. R. S. Lourie, Director of the Department of Psychiatry of the Children's Hospital, will direct the research team which will use a machine that will produce "flicker photic stimulation"; and, if possible, it is hoped will pick

out cases of epileptic potential in an age group where discovery is of prime value.

THE 1962 MHS ACHIEVEMENT AWARDS.—Closing date for the contest application is March 1, 1962. Any recognised psychiatric facility in the U. S. A. or Canada is eligible to make application. The Committee proposes to award three plaques, gold, silver and bronze as last year, and local district branches are requested to visit facilities making application in order to assist the Awards Committee in their evaluation.

Facilities applying should send 6 copies of their application to the Central Office in Washington, supplying necessary supporting material, and addressed to Stewart T. Ginsberg, M.D., Chairman, Achievement Awards Committee, APA, 1700 18th Street N. W., Washington 9, D. C.

ACHIEVEMENT AWARDS 1961, AT THE 1961 13TH MENTAL HEALTH INSTITUTE, OMAHA.—Dr. Mathew Ross presented the following awards: The Gold Award to the Greater Kansas City Health Foundation, Dr. Robert H. Barnes, Director, for developing an efficient short-term urban psychiatric service. The Awards Committee emphasized that this reward "reflected the modern trend toward hospital-community participation in a total psychiatric treatment program."

The Silver Award to the Illinois State Psychiatric Institute, Dr. Lester H. Rudy, Superintendent. The Institute was opened in July 1959, and has become "the keystone for the improvement of clinical services and for teaching and research programs within the 12 hospitals operated by the State De-

partment of Mental Health."

The Bronze Award to the Psychiatric Research Institute for Children, London, Ontario, Dr. Donald E. Zarfas, Superintendent. The reward recognizes three main purposes of the Institute program: first, service to mentally deficient or suspected mentally deficient of all ages in southwest Ontario; second, research conducted in conjunction with the University of Western Ontario Faculty of Medicine; third, teaching by the Institute staff at university, professional and nonprofessional levels.

The report of the reward ceremony is reported in full in the November issue of *Mental Hospitals Journal*.

REQUEST.—In cooperation with the Agency for International Development, Michigan State University is helping develop the University of Nigeria which was established on October 7, 1960 at Nsukka, Nigeria.

The University started with an enrollment of 220 students and a faculty of 13, and in a year has grown to a student body of 1,000 and a staff of 100. Therefore, there is an urgent need for books in agriculture, anthropology, biological sciences, business administration, economics, education, engineering, finance, home economics, humanities, journalism, languages, law, music, physical education, political science, secretarial studies, and sociology.

Fairly recent used, or new books will be greatly appreciated. Books may be sent to: Dr. George H. Axinn, Coordinator, University of Nigeria Program, A-4 Wells Hall, Michigan State University, East Lansing, Michigan.

BOOK REVIEWS

PERSUASION AND HEALING: A COMPARATIVE STUDY OF PSYCHOTHERAPY. By *Jerome D. Frank*. (Baltimore: The Johns Hopkins Press, 1961. \$5.50.)

At regrettably rare intervals in American psychiatry there appears a book which in scope of scholarship, originality of appraisal and clarity of presentation deserves the sincere appreciation of the entire profession. Jerome Frank has written such a volume, and while no brief review can do it full justice, the following may indicate some of its merits.

In his initial survey, Frank defines the essentials of psychotherapy as the employment by a "trained, socially sanctioned healer" of "circumscribed contacts . . . words, acts and rituals" to relieve a "sufferer" according to either a "religio-magical" or "scientific" rationale. In permissive, democratic countries psychotherapy may be extended to cover not only "mental diseases" but also "normal reactions to stress . . . eccentricities, and moral weakness." Psychotherapy may therefore be highly variable in method and application, but "convincing objective demonstration that one form of psychotherapy produces better results than another is lacking"; moreover, "the duration of psychotherapy seems to depend largely on the therapist's notion of how much treatment is necessary rather than on the patient's condition." The premise is therefore justifiable that the "similarity of improvement rates reported from different forms of psychotherapy results from features common to all."

In Chapter II, Frank explores the anxieties and adaptive maneuvers evoked when any man's "assumptive world . . . which varies widely with each individual's culture and experience" is threatened by doubt or stress, and the modes whereby his conduct then follows a set of "normal, neurotic or psychotic . . . self-fulfilling prophecies." On this groundwork, Chapter III traces the bio-psychologic and social roots of religious healing, from ancient shamanistic magic to the consummately developed and effectively modern pageantry of Lourdes—a healing shrine to which, as Lourdes remarked "a trip is never in vain." The clinical relevance of this discussion is brought home by a documented survey of the "placebo effect" in medicine and surgery (Chapter IV), after which Frank again broadens the readers' perspectives by a fascinating scrutiny of "thought reform" as practiced by

the Russians and Chinese. Frank demonstrates that this method can profoundly, though contingently, modify behavior through the use of covert humiliations and threats subtly countered by seemingly "permissive" and inviting promises of reward if the subject "spontaneously" acquires "insight" into his past misdeeds, renounces his previous convictions, and adopts instead the interrogator's conceptual and operative universe. Frank broadly implies that these methods are disconcertingly relevant to many forms of psychotherapy which employ: (a) isolation, (b) progressive disintegration of former frames of reference resulting in (c) uncertainties enhanced by (d) self-doubt and helplessness, (e) control of new sources of motivationally related information and (f) the power of implicit group influences, leading to emotionally abreactive "confessions" and the seeking of new allegiances and securities. Here Frank comments:

"Since the English language lacks a common word for invalid, penitent and prisoner on the one hand and shaman, evangelist . . . interrogator [or psychiatrist] on the other, the first categories will be referred to as sufferers, and the second as persuaders."

In Chapter VII Frank marshalls operant-conditioning and other experimental studies which demonstrate the deeply persuasive effects of role-playing, "spontaneity," indirect rewards, and especially the approval of the therapist and the patient's peer groups—either expressed as advice or equally strongly implied in the misnamed "non-directive counselling." Frank then selects for special examination psychoanalysis as a theory and technique, with which until recently the self-styled intelligentsia among psychotherapists seemed most entranced. Frank believes that this was true because psychoanalysis not only (a) conferred status and security to its practitioners, but also (b) constituted a quasi-religious cult which could neither be confirmed nor refuted by facts and (c) exacted from its students a high investment of time, money and public dedication which most votaries could not easily abandon in favor of more inclusive views and practices. But whether or not he is analytically trained, a good psychotherapist must have "self-confidence, energy and controlled emotional warmth; these qualities enable him to offer his patients a pattern of active personal participation which arouses their expectations of help and facilitates attitude changes."

Included in the methods of individual therapy (Chapter VII) are the use of physical and pharmacologic media which produce a "central excitatory state so intense as to be disorganizing, thereby paving the way for a new reorganization of attitudes." These effects are enhanced by the impetus of the perennially renewed enthusiasms of the physician and the experiences of "novelty" and hope for the patient; *ergo*, "all forms of treatment work best just after they are introduced." But even the "organic-directive" type of therapist adds sage advice or unabashed exhortation as to the changes his patient should make in attitude and conduct. So also the "evocative therapies," though less openly and blatantly, likewise direct the patient into prescribed paths by means of inevitably biased inquiries, "interpretations," "reflections" and "summaries"—all of which derive their effectiveness less from rational understanding than from "re-education" by, and re-identification with, the therapist and the social order he represents.

In Chapter IX Frank subjects the various "directive" (e.g., Alcoholic Anonymous) and "evocative" (e.g., socio-analytic) group therapies to an analysis which is again both incisive and integrative, and once more traces their strengths to the restoration of the patient's self-esteem, his renewed feelings of belongingness and the sense of mastery he derives from help to others, including the therapist. Chapter X extends this survey to the operations of mental hospitals, which Frank somewhat arbitrarily divides into (a) "asylums" that employ alienation from home, personal isolation and humiliation, and systems of rewards or punishment leading to desired conformity in the manner of Thought Reform and (b) "therapeutic communities" which aim to restore the patient to a fuller life through techniques of re-education, esthetic and intellectual growth, and social rehabilitation through democratic participation.

Chapter XI, perhaps the least significant in the book, describes a comparative study of the "immediate" (6 months) and "long-term" (3 year) effects of "individual," "group" and "minimal" forms of psychotherapy with outpatients at the Henry Phipps Clinic. From the follow-up results, Frank concludes that "none of these did more than accelerate recovery which would have occurred in any case in response to reparative environmental or social influences, independent of the treatment."

In Chapter XII on American Psychiatry in Perspective, Frank comments as follows:

"Members of a democracy do not like to see themselves as exercising power over someone

else . . . and the scientist-observer does not influence. So the most prestigious forms of psychotherapy in America are termed scientific and permissive, though in many respects they are neither . . . The popularity of religious healing and healing cults in America may be related to the fact that they stress the very areas in which conventional forms of psychotherapy are deficient." Finally, as to research, Frank quotes Confucius to the effect that "A wise man does not examine the source of his well-being," and admits ruefully that all studies of psychotherapy place the investigator in the position of the Norse god Thor who tried to drain a small goblet connected with the ocean, or the drunk who looked for his lost keys only under a street lamp "where there is more light." Nevertheless, Frank places hope not only in future physiologic, neurologic and pharmacologic advances, but in more searching and objective analyses of the operational elements and effects common to all forms of therapy.

As may have been inferred, the text abounds with pithy purviews as well as astringent aphorisms, among which the following are other examples:

"As a relationship in which one person tried to induce changes in another psychotherapy has much in common with child-rearing, education and various forms of leadership . . . Too many of the ablest, most experienced psychiatrists spend most of their time with patients who need them least . . . [However] psychotherapy is the only form of treatment which . . . appears to create the illness it treats . . . The psychotherapist assists much as a midwife might at the birth of a baby. What he does may make a lot of difference in how smoothly or rapidly the process occurs, but the extent to which he causes it uncertain.

Of course there are, as in all near masterpieces, also minor defects in the book. To broaden the readership appeal of his volume, Frank has sometimes oversimplified his points and included details—for example, the institutionalized ritualism of psychoanalytic training—familiar to most physicians. As another concession to lay concepts, Frank occasionally speaks of "thoughts," "feelings," "emotions," "attitudes," *etc.*, as though they were Kantian categories rather than highly dubious abstractions of highly protean behavioral processes—a logical short-circuit which has blacked out many an illumination. Further to avoid any appearance of pedantry, all references and footnotes are clustered in 24 pages at the back of the book—an arrangement that forced this reviewer, a confirmed pedant, to keep thumbing through text, footnotes and

bibliography at frequent intervals to check Frank's sources, references and comments. Nor does Frank always maintain the courage of his manifest convictions: for example, after analyzing the mythical-magical nature of Freudian theory and linking the dynamics of prolonged analysis with those of brain-washing and faith-healing, he still feels impelled to pay somewhat indiscriminate tribute to the entire "movement" as "objective" and "scientific." Nor can the volume be said to be complete even within its self-imposed limits: on the one hand, Frank omits the highly significant contributions that ethology and animal experimentation have made to the theories of learning, adaptational and social conflicts and their "therapeutic" resolutions; on the other, Frank takes only passing notice of the burgeoning pretensions of current medico-metaphysical departures such as phenomenology, existentialism, autogenic training, logotherapy, etc. Finally, the index—a tail that occasionally wags the dog in every good reference work—does not do the contents justice and thereby diminishes the book's repeated usefulness.

But again on the positive side, Frank's eye is sweeping and critical but never jaundiced, his texts from Lewis Carroll gems of the slyly apropos, his style nearly always a literary delight, and his chapter and summaries models of memorable condensation. Therefore my personal appraisal: I shall recommend to all of my best students in the foreseeable future that they read *Persuasion and Healing*, think deeply about it, read it again, and continue to develop the profoundly important issues it raises for the rest of their lives. Those of my students who are less than the best I shall, regretfully, consign to their inevitably more constricted and doctrinaire spheres of thought and therapy.

JULES H. MASSERMAN, M.D.,
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Chicago, Ill.

CHILD IN THE SHADOWS. By Edward L. French, and J. Clifford Scott. (Philadelphia and New York: J. P. Lippincott Company, 1960, pp. 156. \$3.50.)

This book, intended primarily as a "manual for parents of retarded children," does far more than its authors have set out to do. They are fully justified in their hope that "it will also be of assistance to family doctors, lawyers, clergymen and others who often find themselves in an advisory role for the anxiety-ridden parents of a mentally retarded child." One may, indeed, go so far as to say that it is those advisors who should make themselves thoroughly

acquainted with the contents and be the ones to recommend the book to parents as a reliable, clearly written and well-organized guide. In the past few years, a number of books have been published with similar intent; some of them are excellent. When it comes to lucidity of presentation, a general knowledge of, and "feel for," the facts and emotional reactions involved, and practical answers to recurrent questions and quandaries, *Child in the Shadows* is second to none and superior to quite a few. It offers the kind of reassurance that comes from a combination of sympathetic understanding and familiarity with every aspect of the problem. It is appropriately dedicated to one of the pioneers in special education for the mentally retarded, Helena T. Devereux, who may be proud of the fact that both authors are associated with the Schools which she has founded.

LEO KANNER, M.D.,
Baltimore, Md.

PSYCHOTHERAPY OF THE PSYCHOSES. Edited by Arthur Burton. (New York: Basic Books, Inc., 1961, pp. 386. \$7.50.)

To many the title of this volume will carry the hopeful expectancy of new knowledge, both theoretical and technical, in this most difficult field of treatment. Unfortunately this hope is not sustained with reading the 14 chapters of the volume contributed by authors of varying degrees of clinical experience and of widely disparate theoretical viewpoints. The editor has obtained as collaborators a significant number of psychiatrists and psychoanalysts who are well-known for their long experience and their writings on the intensive psychoanalytically oriented treatment of the schizophrenic. In this group are Donald Burnham, Don Jackson, Harold Searles, Edith Weigert, and Otto Will, who are now, or who were in the past, associated with Chestnut Lodge Sanitarium and the Washington School of Psychiatry. The other well-known psychoanalytic contributors are Silvano Arieti, William Pious and Marguerite Sechahaye. The writers of the other chapters, perhaps less recognized by American psychiatrists, present the special points of view of Jungian and existential analysis, depth psychology and Rogerian client centered therapy.

For those with long interest, knowledge and experience with the psychotherapeutic ventures with the psychoses certain chapters offer interesting and rewarding reading. Otto Will presents an excellent statement of his current concept of the evolution of schizo-

phrenic development as the consequence of certain destructive interpersonal experiences in early life. It is refreshing to learn after his long clinical experience his present opinion that those with schizophrenia may not "be treated satisfactorily as an isolate, apart from his family." Burnham and Searles emphasize certain aspects of the schizophrenic's personality development which have been little touched upon in the past. Burnham concerns himself with those defects in ego development relative to autonomy and independence and portrayed by the modes of activity and passivity in his patient's lives which he portrays in the context of the illustrations from a prolonged therapeutic relationship. Searles emphasizes from his experience in a series of transference sequences the repression of positive feelings for the mother obscured by the much more attended to and well recognized hatefulness of the schizophrenic. Searles' frankness as to his own countertransference involvement with his patients, discussed openly in his chapter, provides the honest sort of reporting that the "old hand" will recognize as "existence" in prolonged and intensive therapy. While Burnham and Searles provide a thoughtful focus for some unclear issues in the development and treatment of the schizophrenic, the compression of their clinical experience and analysis is such that one leaves their contributions without capturing a psychogenetic thread of understanding or a hint of experiential deficit to explain the origin for these personality defects in their patients. Nor do the compressed reports of their therapeutic work offer easy assumptions as to the therapeutic means of working through the mother relationship or the establishment of a less dependent, more autonomous personality. The terseness forced upon those contributors who attempt to distill the essence of their thoughts and technical activities from therapeutic relations with a few patients treated intensively for 5 to 10 years robs their chapters of that living body of clinical data and interpretation which might come through in longer and less constricted reporting.

Sechahaye's chapter provides a lucid and convincing statement of the analysis, meaning and use of symbols to realize the therapeutic needs of the patient, illustrated by her with some vignettes from the treatment of a woman with a traumatically induced psychotic ego disruption. Sechahaye makes a distinction in this volume between "need symbols" and "compensation symbols." To her the former, recognized and realized by the patient, lead

to definitive therapeutic movement and change while preoccupation with the latter only binds the patient to his illness. Sechahaye emphasizes that the symbolic realization of needs must be brought about by the therapist and may not occur solely through the patient. Thus active, if symbolic, intervention into the patient's life by the therapist is seen by her as crucial.

Sechahaye's concept of symbolic realization provides a useful theoretical framework for placing in perspective the papers of Pankow and Caruso and Fruehmann who, respectively, stress the usefulness of modeling and drawing in effecting communication with the schizophrenic. The therapeutic value of working with these measures appears to rest upon communication of significant needs and conflicts through nonverbal means. Pankow particularly writes on the use of clay modeling as a means of expressing and working through the patient's conflicts relative to his body image distortions, certainly a most important ego defect of the schizophrenic.

The problems of this volume stem not only from the space limitations imposed on the various authors but also by the attempt to present too many theoretical points of view. It is observable that those with the greatest clinical experience are shortest with hypotheses and those with the least are lengthiest in attempting explanations based on older propositions. The effort of the editor to effect an integration is insufficient to overcome this diversity and is weakened as well by various oversights of knowledge of certain of the theoretical issues discussed by him. There is a striking lack of interest and consideration of the potentiality of combining psychotherapy with the newer pharmacotherapies to enhance the psychotherapeutic efforts. Arieti alone expresses the possible value of combining the effects of individual psychotherapy and modern pharmacotherapy as a means of reducing the overwhelming anxieties of the psychotic. In the few instances where opinions are expressed on the various somatic therapies or even discriminations offered on the choice of pharmacologic agents, a great lack of information is betrayed.

The volume brings together a variegated series of experiences and viewpoints which will be of interest to those experienced and interested in this field. The uninitiated will find much of the reading both difficult and confusing.

LAWRENCE C. KOLB, M.D.,
Columbia University, N. Y.

HUMAN NUTRITION HISTORIC AND SCIENTIFIC.

Edited by *Iago Galdston, M.D.* (New York : International Universities Press, Inc., 1960, pp. 321. \$6.00.)

This volume is one of a series of symposia presented by the New York Academy of Medicine on various medical and health topics, open to the public. The series is edited by the versatile Dr. Galdston, Executive Secretary, Committee on Medical Information of the Academy of Medicine.

There are 24 contributions in this book exhibiting both historical and present day scientific concepts in the wide field of nutrition in relation to the behavioral sciences, agriculture, ecology, anthropology, economics, and industry, and in different parts of the world. There is special coverage of food habits in Latin America, Alaska and Northern Canada, China, and India.

Stefansson tells the fascinating story of how he went Esquimau and thrived on an exclusively fish diet, how he studied the Stone Age Copper Esquimau, who before his arrival in their territory had never seen a white man.

There are 3 historical articles covering nutrition from classical antiquity to the present—the first by Owsei Temkin, M.D. of Johns Hopkins University, the second by E. W. McHenry, Ph.D. of the University of Toronto, the third by E. V. McCollum, M.D. of Johns Hopkins University.

A most important chapter, "Effect of Processing on the Nutritive Value of Foods" is contributed by David B. Hand, Ph.D. New York State Agricultural Experiment Station. The author discusses the critical vitamins and the effect on them of the various types of processing. "No food can be preserved without some sacrifice in vitamin content." However, "A considerable number of processed foods are fortified with added vitamins," these processes being approved by the Food and Nutrition Board. In some cases vitamins have been added to foods, "not because of a public need but to enhance sales."

Special mention must be made of the section on Nutrition and Population Pressures by Fairfield Osborn, D.Sc., President, New York Zoological Society. He begins by expressing the conviction "that by far the greatest barrier to the goal of adequate nutrition throughout the world is that of rapid population growth." He estimates that "at least half of the world's people are definitely undernourished, and this means more than a billion human beings." Great as have been the efforts in certain countries to increase the food supply and widen its

distribution, Fairfield Osborn points out with mathematical precision that these efforts are "of relatively small importance as far as the world picture is concerned." It is clear that long tradition and consequent prejudice, political and religious opposition have hindered recognition of the vital relationship between nutrition and population pressures, and the urgent action that should follow such recognition.

Many subjects of current interest in the science of nutrition are dealt with in separate chapters in this book. They present a wealth of information. The points at which there are gaps in knowledge and those at which research is most active are also indicated. The prospects of continued investigation are encouraging insofar as widening the basis of the science of nutrition is concerned. Much factual information is available, but the vital question is the manner and measure in which the common sense of mankind will see to it that the prevailing and increasing knowledge is applied.

C. B. F.

THE FACE OF THE ANCIENT ORIENT. By *Sabatino Moscati.* (Chicago : Quadrangle Books, 1960, pp. 328, \$6.00.)

The procession of eastern Mediterranean and Mesopotamian cultures and civilizations from the Sumerians and Egyptians to the Israelites and Persians of pre-Classical times, constitute a brilliant spectacle in the history of mankind, and reveal to us the background and conditions of our present civilization. A volume such as this is necessary reading for those who would follow the historical development of those social, cultural, and intellectual forces which have helped form man to become what he is.

Professor Moscati writes with his usual charm and authority; there are 32 plates, 5 figures, and a map of the area discussed in the text. This is the most readable and up-to-date book in its field.

ASHLEY MONTAGU, PH.D.,
Princeton, N. J.

IN A FOREST DARK. By *Harry Feldman.* (New York : Thomas Nelson & Sons, 1960, pp. 191. \$2.95.)

The typical aspect of an "insane person," says Mr. Feldman, is this: "A wild look in the face; eyeballs begin to protrude; features become a grotesque gargoyle; mouth contorts; lips start to foam; cheeks sink; face becomes mask-like in its ghastly intensity." It seems that Mr. Feldman entered a mental hospital where

he was not permitted to communicate with his family, where many patients "had the drawn faces and twisted bodies that indicates the last stages of paresis" and where the doctors (literally) refused to give him the correct time. (When he asked one doctor, equipped with a wrist watch, the "doctor's lips curled contemptuously and he sneered: 'I don't know.'" That's what he got for wanting to know the time!

One thing the book does, though, is put in a plug for the author's personal analyst who, it says, was trained by Freud himself. Unlike the other doctors, this analyst had a "warm, rugged and friendly handshake." The analytic sessions are given in some detail, and if the author is portraying them accurately, he certainly picked a gabby analyst. Those of us in the field of hospital administration, though, can get one tip here. It seems that in many mental hospitals, scrub women are trained to observe patients and report on their conduct. If the scrub woman sees the patient not mixing with others, it says here (page 36), she diagnoses the case as hopeless, and you know what that means!

HENRY A. DAVIDSON, M.D.,
Cedar Grove, N. J.

CHILD DEVELOPMENT AND CHILD PSYCHIATRY.

In Tribute to Dr. Arnold Gesell in his Eightieth Year. Edited by *Charles Shagass, M.D.*, and *Benjamin Pasamanick, M.D.* (Washington: American Psychiatric Association, 1960, pp. 225.)

This volume consists of the 9 original papers and the discussions of these papers which were presented at a research conference conducted at the Regional Research Conference at the State University of Iowa College of Medicine, Iowa City, March 18-19, 1960, under the joint auspices of the State University of Iowa College of Medicine, Department of Psychiatry, and Psychopathic Hospital and the American Psychiatric Association's Committee on Research.

The breadth and depth of the field of child development on a psychomotor and emotional level are well demonstrated by this volume, which ranges in subject matter from purely biochemical aspects of retardation of psychomotor development due to hyperbilirubinemia to the highly complex behavioral aspects of child development as characterized by a discussion of mother-infant interaction.

The material in this volume is presented in considerable detail, and the discussion is critical and pertinent. Leo Kanner's description of Arnold Gesell's Place in the History of De-

velopmental Psychology and Psychiatry is appropriately critical and points out the scientific rigor which Gesell utilized in contrast to some of the present work which is filled with "glibness and gobbledegook."

The analysis of the 40-week Gesell schedule by Knobloch and Pasamanick is a detailed approach to the reliability of the Gesell developmental examination and substantiates the precision of the evaluation in relation to prognosis, particularly in relation to the differentiation of the damaged individual from normal.

The papers dealing with the psychiatric aspects of infant behavior are of considerable interest and emphasize how fertile the field is for study of the developing personality and factors modifying this development. Of particular interest in this regard is the role of maternal attitudes. The study presented by Gildea, *et al.*, attempts to evaluate maternal attitudes in an objective manner, and this paper should be of interest to obstetricians and pediatricians.

The volume contains concepts and information of value to psychiatrists, pediatricians, and obstetricians as well.

ROBERT E. COOKE, M.D.,
Baltimore, Md.

PIONEERS IN CRIMINOLOGY. By *Hermann Mannheim*. (Chicago: Quadrangle Books, 1960, pp. 402. \$7.50.)

The criminal lawyer is concerned with whether or not the accused committed the crime. The criminologist is much more deeply interested than that, he wants to know *why* the criminal committed the crime. In this volume the views of 16 leading criminologists, are presented by as many authorities. The volume opens with a valuable critical introduction by the editor, followed by the following essays: "Cesare Beccaria," by Elio Monachesi; "Jeremy Bentham," by Gilbert Geis; "Alexander Maconichie," by John Vincent Barry; "V. John Haviland," by Norman B. Johnston; "Isaac Ray," by Winfred Overholser; "Charles Doe," by Frank R. Kenison; "Henry Maudsley," by Peter Scott; "Cesare Lombroso," by Marvin E. Wolfgang; "Gabriel Tarde," by Margaret S. Wilson Vine; "Hans Gross," by Roland Grassberger; "Raffaele Garofalo," by Francis A. Allen; "Enrico Ferri," by Thorsten Sellin; "Emile Durkheim," by Walter A. Lunden; "Pedro Dorado Montero," by Manual Lopez-Rey; "Gustav Aschaffenburg," by Hans von Hentig; "Charles Buckman Goring," by Edwin D. Driver; "Willem Adriaan Bonger," by J. M. van Bemmelen. The volume is concluded

with an article by Clarence Ray Jeffery on "The Historical Development of Criminology." There is a good author and subject index. On the whole this is a most welcome volume.

ASHLEY MONTAGU, Ph.D.,
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AIDS TO PSYCHIATRY. 8th Ed. By W. S. Dawson, M.D., and E. W. Anderson, M.D. (Baltimore : The Williams and Wilkins Co., 1960, pp. 310. \$3.50.)

This is a remarkable volume which presents a concise description of practical psychiatry. It is ideal not only for medical students but also for those ancillary personnel who require a knowledge of psychiatry and for those studying for their boards.

This text, which was written for a British audience, is applicable to the American scene. One must commend the authors on their excellent description of Jasper's concepts of psychopathology. This volume is recommended for those individuals who wish a first-rate abbreviated psychiatric manual.

LOUIS L. LUNSKY, M.D.,
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GENERAL PSYCHOTHERAPY (An Outline and Study Guide). By John G. Watkins, Ph.D. (Springfield : Charles C Thomas, 1960, pp. 255.)

The novitiate in psychiatry, who would attempt to gain a modicum of erudition in psychotherapy, is confronted with a confusing mass of literature. Theories of personality are diverse (but claims to "cure" are equal) ; techniques are multitudinous ; research approaches are diverse. The feelings evoked in first examining this mass must resemble those of the first rat who tried to run his first maze in psychological experiments : frustration pyramids as one attempts to discern the side alleys and blind corridors from the main paths.

The new book by John G. Watkins, is a good solution to the problem. It presents an excellent outline, with appropriate bibliography, of the foundations of psychotherapy, its theories and techniques, particularly as applied to the major diagnostic categories of mental illness ; and a bird's eye view of evaluation and research in psychotherapy.

This book will also be of value to the more experienced therapist to use as a reference for browsing when particular questions arise in practice. Also, to the lecturer, the outline might serve as a guide for topic presentation.

One criticism might be voiced. Rather than a "one publication issue," it would be desirable to have this volume expanded periodically to keep pace with new developments. And, personally, this writer would like the section on research in psychotherapy expanded.

NYLA J. COLE, M.D.,
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AN OUTLINE OF CHEMICAL GENETICS. By Bernard S. Strauss. (Philadelphia : W. B. Saunders Co., 1960, pp. 188. \$5.00.)

The chemistry of heredity is the latest of the branches of science to make its appearance, and amusingly enough that branch of science has been the creation of biologists rather than of chemists. The chemist will soon enough be getting into the act, for every day the subject becomes more and more complicated ; but in the interim, and while the subject is in what is perhaps its most interesting stage of development, Dr. Bernard Strauss has produced this immensely readable and stimulating account of what has thus far been learned of the chemistry of heredity. Indeed, it is an extremely dynamic account of this important subject which will be welcomed by the expert and the tyro alike.

ASHLEY MONTAGU, Ph.D.,
Princeton, N. J.

LEISURE IN AMERICA. By Max Kaplan. (New York : John Wiley and Sons, Inc., 1961, pp. 350. \$7.50.)

It is becoming widely recognized in this country that the increasingly available leisure time and its use constitutes a problem which should be attracting the attention of psychiatrists. This book deals with the problem of leisure in America and is authored by a writer with degrees in sociology and music as well as earlier experience as a social worker. He is presently Director of The Art Center of The School of Fine and Applied Arts of Boston University. The author provides a complete and extensive inquiry into the subject along with numerous helpful references. One would wish perhaps that the writing were somewhat more inspired and that the concepts were expressed in a manner that would capture more surely the interest of the American psychiatrist. In this reader's opinion, the book is not outstanding for its originality of concepts but it is a thorough and well documented study of the subject.

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DRUGS AND BEHAVIOR. Edited by *Leonard Uhr, Ph.D.*, and *James G. Miller, M.D., Ph.D.* (New York and London : John Wiley and Sons, 1960, pp. 676. \$10.75.)

This big book is the result of an ambitious undertaking supported by a USPHS grant which aimed to assemble a collection of studies that could help develop an objective scientific evaluation of the new drugs affecting human behavior. Its primary focus is methodology, often illustrated with data, but with no presumption of completeness. A majority of the contributors are psychologists, and a minority psychiatrists, with a small representation from pharmacology. The list of contributors is long and distinguished and comprises a significant sample of leading researchers in the field. The psychiatrist may be particularly interested in the contributions of Himwich, Lehmann, Cole, Kurland, Freyhan, Di Mascio and Shagass. There is a lively and readable subjective account of sensations under psychotropic medication by C. C. Bennett. Research workers in the field will find the many discussions of experimental design invaluable: nobody who studies them is likely to make naive blunders of omission in his future work. A number of ingenious testing approaches and sophisticated instruments are described that can enrich our experimental resources. An excellent index enhances the value of the book.

The scientific evaluation of the newer drugs must steer a course between experimental studies that yield objective and verifiable data that are sometimes partial, irrelevant or misleading, and clinical observation that addresses itself to the complexities of the problem, at the risk of being subjective, biased or otherwise inadequate. This compilation of studies reflects a preference of the first approach. There is little in it that could be called a product of bedside observation by skilled observers, though Freyhan makes a persuasive case for clinical observation.

Of the contributing psychiatrists only a few write in a clinical vein. Though most of the authors implicitly accept one or another theoretical premise, there is too little explicit formulation of these premises. Thus Waggoner in his preface speaks of drugs as a sort of secondary alternative to psychotherapy, to be used by family doctors when there is no trained psychotherapist available, because "in the treatment of mental illness psychotherapy is still the keystone, the most important and best method."

But if there are physiological causes and physiological components in mental disorders,

could not a physiological treatment also be a keystone and best method of therapy in some cases? It would seem to me desirable for researchers in this field to spell out the theory of mental disorder with which they approach this work, and to offer some suggestion of where they think the basic factors might lie.

Those who pin their faith on objective tools in psychiatry can learn a lesson from the history of intelligence testing. The long effort to measure intelligence finally led to a widely held but false belief that the Intelligence Quotient is synonymous with intelligence, to the detriment of scientific work in this field. Now it is the sophisticated psychologist who has to remind the public that the I. Q. is an instrument, and sometimes a very blunt instrument of strictly limited value. Let us not make the error of equating psychiatric disorders with weighted behavior profiles or ingenious factor analyses, however useful these may be as tools.

The reduction of a complex problem to simpler measurable components requires us to discover not only what is simple, but also what is basic. As Freyhan wisely says, "There are not only naive methods of clinical empiricism; there is also the threat of a naive faith in technical objectivism . . . experimental investigations cannot be substituted for clinical explorations."

In spite of these considerations this volume satisfies a basic need: it offers a fairly full account of principles and pitfalls of methodology in drug research, and can be regarded as an indispensable handbook for workers in this field. It will not satisfy the needs of the busy clinician. There is very little discussion of the kind of treatment that is most likely to help a hospitalized acute schizophrenic go home soon, or relieve an agonizing depression in an outpatient. Yet this is the area where the busy clinicians need not only certain knowledge, but reasonable working hypotheses.

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THE FROG POND. By *Joyce MacIver.* (New York : George Braziller, 1961, pp. 412. \$4.95.)

As stated in the foreword, "This book is a fragment of an autobiography . . . the events, insofar as they concern the narrator, are true." The author obviously remains anonymous, as she goes into considerable detail about her life and her associates. She is a career woman who writes for a magazine, and in this story she records her search for self-understanding,

which is the essence of psychoanalysis.

The story begins in the summer of 1942, when she "foolishly supposed the problem might be solved by thinking." In the course of the next several years, she encountered six different psychoanalysts and rather graphically tells of her experience with each. She relates her compulsion that drives her from analyst to lover and from lover to analyst and back again, and the end result is not in favor of the therapy of psychoanalysis. However, for any physician interested in the process of psychoanalysis, much can be learned from this narration. The author truthfully depicts the personalities of the persons under whom she was treated, and one would certainly come to the conclusion that psychoanalysis is something that should only be administered by an expert, and that, when inexpertly carried out, can do grave damage. On the other hand, any physician who has used psychoanalysis effectively will find this experience of one woman of constructive value. It will help him to perhaps evaluate his own technics.

Through these 412 pages, divided into 44 chapters, the reader will find himself at times intrigued, and at other times disgusted, but the chapters are short enough and the narrative is so well written that he will read the book from cover to cover.

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ALLGEMEINE PSYCHOPATHOLOGIE. By Karl Jaspers. (Berlin, Germany: Springer-Verlag, 1960, pp. 748. DM. #56--.)

The present edition is the seventh of this "classic" in psychiatric literature, first published in Heidelberg in 1913. However, the subsequent editions have changed the book in a way that, if the reader had all 7 editions to compare, he could get a glimpse into the development of psychiatry during the last half a century. Part of the history is reflected in the short, but not so cryptic, statement by Jaspers, dated March 1946, that his "book which had been revised in July 1942 was censored and prohibited from being published!" The author wants it to be understood that the essence of his book, which has often been described as a representative of phenomenological theories and thinking, is only partly so: the meaning of Jaspers' teaching of psychiatry is *umfassender* (more universal): the clarification of the methods of psychiatry *per se*, *ihre Auffassungsweisen und Forschungswege* (its conceptions and methods). He aims, and, in this reviewer's opinion, successfully, to present the entire

clinical and empirical Wissen (knowledge) "through methodical and critical reflection." While this book is voluminous, it is also valuable and it seems to speak for its success, that an expensive set has lived through 7 editions in the course of half a century!

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MAN'S PRESUMPTUOUS BRAIN. An Evolutionary Interpretation of Psychosomatic Disease. By A. T. W. Simeons, M.D. (New York: E. P. Dutton & Co., Inc., 1961. \$5.75.)

This is a very interesting presentation which is open to considerable argument. Dr. Meerloo points out in the foreword that when he began reading the book "I found myself challenging views, details about which I prided myself I knew a bit more than the author." But at the end he concluded that this is a "brilliantly written, fascinating book. It is not only a book for lay people but also a must for all physicians who wish to overcome their scientific presumptuousness."

The author emphasizes (p. 3) that "The number of diseases to which a psychosomatic interpretation can be given is growing rapidly. Diseases which are not caused by external agencies, diseases which are neither congenital nor hereditary, and those which do not occur in wild animals are all likely to have a psychosomatic background. We are witnessing an alarming increase in the frequency with which psychosomatic diseases, now recognized as such, are occurring in modern urban man, and there is good reason to be apprehensive about the sharp rise in the incidence of colitis, duodenal ulcers, high blood pressure, coronary disease, diabetes, etc. . . . For a better understanding of the psychosomatic process it seems necessary to discover the point in man's evolution at which the imposing structure of his brain turned against the body that upheld it."

The book is divided into three parts, the titles of which pretty well explain the contents. I. "The Evolution of Man: The evolution of the human body; The evolution of the human psyche; The spread of culture." II. "The Evolutionary Background of Some Psychosomatic Disorders: Disorders of the upper digestive tract; Disorders of the lower digestive tract; Disorders of the heart and of the blood vessels; Disorders of the thyroid gland and the nature of obesity; Diabetes; Disorders of the bones and of the muscles; Disorders of sex." III. "An Outlook: Survival and the Human Psyche."

There are nine graphic illustrations and diagrams which explain the text. The whole is well indexed. Although this is not a textbook and no references are given, any person interested in psychosomatic disorders will find it easy reading and certainly most stimulating.

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SCIENCE AND PSYCHOANALYSIS. Vol. IV. Psychoanalysis and Social Process. Edited by Jules H. Masserman, M.D. (New York City: Grune & Stratton, Inc., 1961, pp. 196.)

This book is a well organized compilation of papers and the discussion of them, read at the Academy of Psychoanalysis meetings, May 1960. Dr. John Millet in his preface sets the tone for the papers to follow in his reiteration of the Academy's original purposes, "to establish a free forum in which there could be a continuing exchange of divergent views on the theory and practice and on the relationships of psychoanalysis to its parent body of psychiatry and to the biological and social sciences."

Dr. Millet urges that psychoanalytic institutes that have no affiliation with either a hospital or medical school should seek such an alliance. Dr. Kenneth Appel, in his discussion of Dr. Knight Aldrich's paper, "What Price Autonomy," says that such an affiliation would probably de-emphasize the financial side of psychoanalysis and emphasize its service, humanitarian and scientific aspects, as well as possibly reducing the cost of psychoanalytic training through the offering of fellowships as in other branches of medicine. He decries the long training period heretofore necessary, feeling it "works against originality and exploration and tends toward controlled thinking." He adds, "the development of new ideas is a prime desideratum in psychiatry today." He suggests a different set of standards for those going into private practice and those going into research, teaching or full time jobs in medical schools or centers.

Seven excellent papers on the relationship of psychotherapy to the social sciences stress the need for further cooperative research and mention the inherent, but not insurmountable difficulties found in such joint research. In the interest of brevity, I call attention only to Harold D. Lasswell's paper, "Psychoanalytic Conceptions in Political Science," a pertinent and interesting report of the past contributions of psychoanalysis to political science, concluding with the hope that continued contribu-

tions "might enable political scientists to find some effective means of advancing our knowledge of politics and clarifying basic policy at every level of public life."

Six papers follow on "Psychoanalysis and Transactional Dynamics" and "Communication and Therapy," all reexamining basic psychoanalytic theories and processes of therapy. Dr. Roy Grinker in discussing Dr. William Silverberg's paper on "An Experimental Theory of the Process of Psychoanalytic Therapy," says, "in recent years much more attention is being paid to studies of therapeutic processes occurring in psychoanalysis and other forms of psychotherapy. Our stock in trade, the basic foundations of our healing roles, is being looked at with a kind of courage (and anxiety) that has long been missing. . . . If we, as psychoanalysts are to stake our claims in the field of psychiatry on the soundness and efficacy of our therapies, it behooves us to understand what we are doing and when, and to endure anxiety in investigating our results more carefully."

Dr. Norman Levy in his fine preliminary survey of the research project conceived and directed by Dr. Franz Alexander, states, "the most significant feature of our research is that several therapies are being visually and auditorily observed by experienced psychoanalysts during the entire duration of therapy." He examines the element of insight in therapy, the continuous interaction between therapist and patient and the neutrality of the therapist as to their importance in therapy.

The paper by Dr. Aldrich, above mentioned, concludes the book. He traces the history of psychoanalytic institutes, considers the past and present recruitment and training of psychiatrists and psychoanalysts, and in summary states, "a dynamic and creative psychoanalytic movement needs every opportunity to test its old theories and to develop new theories, to amass all the relevant experimental data possible and to expose its scientific operations to the fullest available range of check and cross-check. It needs every opportunity both to encourage intelligent and imaginative medical students to enter psychiatric and psychoanalytic training, and to share its discoveries and its problems with the rest of the scientific world." He closes with a quote of Alexander's, "Instead of working in splendid isolation, we (psychoanalysts) must find ways and means to reunite with the medical community which Freud had to leave for compelling historical reasons." It seems to me that this book makes admirable progress in this direction by presenting a scholarly approach to the problems

so ably presented here.

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LEUCOTOMY IN ENGLAND AND WALES 1942-1954. Ministry of Health Reports on Public Health and Medical Subjects No. 104. By G. C. Tooth, and M. P. Newton. (London: H. M. Stationery Office, 1961, pp. 36. 2s. 6d.)

When psychosurgery was introduced into England during World War II, the Board of Control (England and Wales) kept close track of all operations, and published a report on the first 1000 cases in 1947. The Board of Control subsequently went out of existence and its functions were taken over by the Ministry of Health. The present study embraces 10,365 patients operated upon once for mental disorder and followed for 3 to 15 years. Data were obtained from 110 participating hospitals. This is by far the largest series ever reported upon.

Patients were grouped under 3 headings: schizophrenic 64%, affective 25% and "other" 11%. Only 14% were operated upon during the first 2 years of illness, and 41% had been ill more than 6 years. At the time of the survey 46% of all patients had been discharged, more in the affective (67%) and "other" (65%), than in the schizophrenic (36%). The length of stay in the hospital after operation and before discharge was greater for the schizophrenic, but nevertheless reached 8 to 10 years in a surprising number. The authors reject the thought that leucotomy alone was responsible for discharge, pointing out the profound alterations that have taken place in management of patients, community relations and the introduction of new drugs. They are more impressed by the response in chronically ill patients, hospitalized for 7 years or more before operation than that in early cases.

About one-third of the patients were followed up after discharge from the hospitals. There is reason to think that those not followed up were more effectively self-sustaining than those who kept in touch with the hospitals. All the discharged patients (including those who died later) were divided into 5 classes, ranging from total recovery to family burden. Hospitalized patients were also divided into 5 classes, ranging from social recovery to unchanged or worse. The authors combined the 3 lowest of the discharged with the 3 highest of the hospitalized in their analysis of the

clinical condition at the time of the survey. "It will be seen that 36% of the men and 44% of the women were reported as at least greatly improved after the operation; and at the other end of the scale 4% of the men and 3% of the women died, with death being wholly or partly attributed to leucotomy." Relapses occurred in 21%, mostly in younger patients, figures being given in the Appendix for those relapsing in hospital and those readmitted in relapse. Aside from transient fits soon after operation, epilepsy was established in 1.3%. Personality downgrading of severe type was noted in 3.1%, older patients faring worse.

In discussion the authors point out "that there was greater improvement than would have been expected without surgery, even when used as a last resort, in a considerable proportion of patients in whom the prognosis would, at the time, have been regarded as most unfavorable." While leucotomy can often free the patient from distress, this in some cases must be at the price of accepting a lower level of existence. "This bargain has often to be struck in medical practice," for example in amputation or colostomy. The falling off in leucotomy is attributed to such dangers in spite of the introduction of less radical surgical procedures and also due to the fact that "drug treatments have provided a safer means of obtaining comparable results."

The 10 years separating these 2 reports on leucotomy show that psychosurgery has achieved some lasting effects—and a few (3.1%) distressing failures.

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PSYCHODIAGNOSTISCHES VADEMECUM. Hilfstabellen für den Rorschach-Praktiker. By E. Bohm. (Bern and Stuttgart: Verlag Hans Huber, 1961, pp. 181. Fr./DM 22.80.)

The author of the present book is well-known for his large text on the Rorschach test widely used in Europe. In this *Vademecum* he provides, as he states in his foreword, an *aide memoire* which, after technical processing of a test protocol, will facilitate the more essential task of evaluating it clinically. The book consists entirely of tables which are synoptic information on the broad range of Rorschach test topics. These include the individual test variables, some modifications to which the test has been subjected, its ways of reflecting intelligence, and the manifestations in it of the effects. Separate chapters present the findings for the age ranges, con-

stitutional personality types, and one each for the major clinical groups. A separate chapter presents differential indicators in parallel columns.

As Bohn emphasizes, the book is no substitute for a Rorschach text or training. It presupposes acquaintance with the "classical" Rorschach technic. He also makes it clear that it restricts itself to "static" evaluation, a level which he contrasts with dynamic interpretation, and which he considers not a science but an art. On this latter point this reviewer is not ready to agree. But discussion of this issue would necessitate settling first one of a prior order: what is the essence of clinical science? Since it is an issue far afield from the purposes of this review, I will close by noting that to the experienced user of the test, the manual can be a big help. It is a compact ready reference source on the numberless evaluation problems presented in Rorschach test diagnosis.

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CLINICAL CHILD PSYCHIATRY. By Kenneth Soddy, M.D., D.P.M. (London: Bailliere, Tindall and Cox, 1960, pp. 470. \$8.50.)

The field of child psychiatry has, as yet, few standard textbooks and the majority of these are by American authors. Coming from a noted English psychiatrist, the present volume represents a welcome and illuminating addition. The aim is to provide a comprehensive clinical survey, useful not only to those physicians, psychologists and social workers who have specialized in this field, but also to the many other disciplines that in one degree or other are involved in the care and treatment of mal-adjusted children. With this clinical emphasis, the author appropriately selects extensive case material to illustrate the processes under discussion. This does not by any means infer sacrifice on the didactic side. Quite the contrary; the didactic material is a very complete, lucidly presented set of formulations of all the accepted ideas and some new and enlivening slants on current theory.

The author first deals with the current conceptions, medical and lay, on the vexed question of the role of inheritance and then examines the general implications of family life in a rapidly changing era. Particularly interesting to people in this country may be the penetrating picture given of the Southern English values, attitudes and mores that inevitably mould the growing child in this culture. This is necessary to provide the background of the pre-

sented cases. The psychological and physical implications of the processes of gestation, pregnancy, birth, nursing, toilet and habit training are dealt with in sequence and detail and constitute, because of the paramount formative influence of these early stages, the larger part of the book. Mental defect, psychosomatic illness and the reactions to physical disability are given merited positions with due consideration of the consequences of parental reactions and the unnecessary and avoidable deleterious effects that emerge. With regard to the school years, the author again presents a graphic account of the organization of school life and its values and the attendant hurdles and problems. The detail enables valid and valuable comparison of the merits and drawbacks when contrasted with the somewhat different orientation prevailing in America. Throughout, the case histories are well chosen to illustrate graphically the factors in various kinds of disturbance. These chapters are much clearer and more readable than the majority of similar writings.

It is impossible in one book to give equal emphasis to all areas of a rapidly expanding field. Accordingly, in the sections on adolescence and therapy the author has chosen to discuss only the salient features. He outlines the process of examination and diagnosis, the various roles of the personnel in the clinic and presents a valuable summary of psychotherapy and other treatment approaches. At the end the author ties together the various sections by proposing his own method of classification. This does not rely on a transposed (and imposed) system from adult psychiatry, nor on purely symptom differentiation. It emphasizes syndrome differentiation as the basis of approach.

Though he relies strongly on psychoanalytic theory, the author uses ideas from other fields and, at times, disagrees with the orthodox views, e.g., "the genital sexual emphasis of the boy's castration anxiety." His comments on certain features of American childhood and atmosphere are thought provoking, and the English attitude that psychiatry is and should be closely allied to medicine is implicit.

Such criticisms as might be made must then be viewed as against this solid achievement and are minor. One would have liked to see some mention of the influence, good or bad, of television and a discussion of the role of the newer advances in psychopharmacology. A full bibliography would have enhanced the usefulness of the book and is somewhat surprising in its absence. In addition, the amplification of the author's observations by sociological and

child cultural studies would have underscored the undoubted general application of the principles and problems with which he has dealt.

The book is a noteworthy addition to the field of child psychiatry.

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POPULAR CONCEPTIONS OF MENTAL HEALTH:
Their Development and Change. By J. C. Nunnally, Jr. (New York: Holt, Rinehart & Winston Inc., 1961, pp. 310. \$5.00.)

This is not, as one might infer, a review of current popularly held theories about mental health and illness. Rather is it a collection of several separate studies using the familiar sampling and questionnaire-interviewing techniques of the opinion poll, designed to discover what the public "knows" about mental health, what feelings and attitudes it holds toward mental illness and mental health professionals. The book includes also critical studies of the mental health concepts presented in fiction, drama and news stories by the mass media and an analysis of how mental health information can be successfully communicated.

The author claims that his results show clearly that the public is *not* misinformed and that there are but few widely held misconceptions. There are some "voids" however where people are uninformed. Furthermore the average person eagerly looks to the expert for new information and when given with authority he will accept it even when it seems patently incorrect.

On the attitude side, the author states that there is no doubt that stigma exists. It is very general and forms a "negative halo" about the patient and the treatment methods used, if not about the experts themselves.

The views of these experts on suitable public education material were studied. It was found that there was agreement on only a narrow range of ideas. Anyone who has attempted to work with an inter-professional committee on a program of education in mental health will agree wholeheartedly with this finding.

In the study of the mass media, the author finds that mental health problems are usually stylized to meet the requirements of the drama or the fiction. One half-serious conclusion is that mental health organizations should sponsor "good" soap operas with acceptable mental health concepts!

These studies form an interesting contrast to those reported by Gerald Gurin, *et al.*, in Monograph No. 4 produced by the Joint Com-

mission on Mental Illness and Health in that no effort is made here to determine what people think and feel about their *own* mental health. This could lend a certain objectivity to the opinions and ideas collected. On the other hand the samples used are small and the interpretations are often very free.

The studies, however, are of considerable interest to those engaged in public education in this field.

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EMOTIONAL MATURITY. 2nd Ed. By Leon J. Saul, M.D. (Philadelphia: J. B. Lippincott Co., 1960, pp. 393. \$6.50.)

The second edition of this book, appearing 10 years after the first, provides as unusually important reading now as it did then. Dr. Saul's first edition was largely born out of the impact of his experience as a clinician during and immediately following the second World War. This book is filled with illustrations and insights into the development and dynamics of healthy and aberrant personality functioning. Dr. Saul believes that maturity of function has a direct bearing on the manner in which the social crisis which confronts man at the present time is met. There is a choice between emotional, spiritual and physical survival or the destruction of man's opportunity for self realization. Thus it is the pathway to full human achievement which is Dr. Saul's main concern. The book lives up to the task which he has set for himself in writing it, namely, "to show on extensive evidence the nature of maturity and the paths to its achievement, for this concept helps to clarify the essentials of human nature and the goals of its fulfillment."

In clarifying this concept, the clinical material spells out in living form the interplay of the major motivations and, particularly, the immense power of the dependency needs in everyone. The book is not an effort to present any special formal theoretical structure. It is rather to describe the effect of some powerful human motivations on behavior and to map the paths which can lead either to satisfaction or frustration of these needs.

The book illustrates its intent by defining the nature and consequence of some common emotional interactions between persons from childhood onward. It describes the way in which such interactions, favorably or unfavorably, influence the development of personality. The language of Dr. Saul's presentation is refreshing in its directness and lack of pretension.

The beginning section of the book outlines the implications for preventive psychiatry of an understanding of emotional development. Dr. Saul then proceeds to explain the effects of the major human feelings on the development of personality; he particularly stresses the relationship between dependent needs, hostility and the demands of reality, and explains the way the structure of the mind attempts to integrate a variety of biological and social conditions. The latter half of the book further defines the causes of neurotic illnesses as well as the way in which the organizing functions of "mind" are expressed as personality.

Those who concern themselves with human ills at either a clinical, biological or social level will find this book quite personally meaningful.

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SOCIOLOGY OF CRIME. Edited by Joseph S. Roucek. (New York: Philosophical Library, 1961, pp. 551. \$10.00.)

The description, classification and clarification of social factors in crime serve an important integral purpose in the academic approach to correction and in the education of both correctional personnel and an informed public. The scope and depth of what is here termed sociological criminology are aptly illustrated in this collection of 21 papers by specialists in various segments of the field, most of them faculty members. The topics range from the geography of crime and theories on delinquency to current trends in police work and penology. There are also interesting and instructive sections on crime and criminological problems in other countries, with especial attention to the Soviet bloc.

That the contours of sociology, like those of other disciplines, are shaped on the anvil of sharp controversy is made clear in a commentary by Gilbert Geis of Los Angeles State College. Reviewing a typical vein of polemical debate on the theory of differential association, he remarks whimsically, "If internal conflict represents an index of the health of a discipline, criminology might well lay claim to being one of the most vigorous areas of current academic research."

Incidentally, in his discussion of the differential association theory, first propounded by

Edwin H. Sutherland, Mr. Geis gives more weight to those who regard it as at best a tentative and partial criterion of criminal behavior than to those who would accept it as a valid general approach. Since Sutherland's theory—that crime is a symptom of social disorganization and that criminal behavior is learned behavior—is associated with a deterministic philosophy, Mr. Geis suggests that this accounts largely for "an interdisciplinary Maginot Line" between criminology and criminal law, the doctrine of free will being implicit in the latter. He finds encouragement, however, in current attempts at rapprochement between the law and the social sciences and indicates that a new group of criminologists is coming to the fore in whom the hopes for a progressively oriented criminological sociology are mainly centered.

The closest approach to therapeutic considerations in the volume is found in a monograph on the psychopathology of the social deviate by Dr. Nathan Masor of Staten Island. In the course of a comprehensive review of the pathologies related to crime, Dr. Masor offers the term "occult psychotic" to describe those who break out in violent offenses without having manifested such tendencies previously. Using the word "occult" to mean latent or hidden rather than mysterious, he applies the label to "a sudden violent antisocial manifestation, with little or no predatory warning in a person erroneously believed to be well integrated." Like Mr. Geis, Dr. Masor dismisses attempts to use psychoanalytic concepts to explain criminal tendencies. Concluding that no apparent physical cause in the brain or glandular makeup can be identified as a basis for the behavioral tendencies of the psychopath, he affirms that "this does not rule out the possibility of biochemical causation which may parallel the very recent findings of the schizophrenic personality."

More than a third of the book is devoted to reports on crime, criminology and correction in England and Western Europe and on delinquency, crime, criminal law and police and penal systems in the Soviet region. The latter, compiled by Joseph S. Roucek, constitutes an unusual roundup of comparative information in a field that is largely new to American readers.

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HUGHLINGS JACKSON'S PRINCIPLES AND THE
ORGANO-DYNAMIC CONCEPT OF PSYCHIATRY¹HENRI EY, M.D.²

Jackson's principles of the evolution and dissolution of the nervous functions have been applied to the realm of neurology with striking success, directly inspiring all neurological works in the last 100 years (46, 48, 49, 72, 86, 87, 88). What generally hampers the application of these principles to the realm of psychiatry stems from two difficulties: The first one is that the application of Jackson's principles to psychiatry seems to reduce psychiatry to neurology (45). The second is the fear that the application of the concepts of evolution and dissolution to psychic activity would mean their application to an unreal abstraction. I think that these two conceptual difficulties are responsible for the psychiatrists' indifference—if not opposition—toward the Jacksonian concept of psychic disturbances, and this is perhaps even more true in Anglo-Saxon than in other countries. For it seems almost inconceivable that the Jacksonian theory, despite the influence which it had on the early works of Adolf Meyer and on a few other isolated attempts, has never been thoroughly utilized in English-speaking countries.

For my own part, I have for 25 years been deeply involved in the study of the Jacksonian concept of nervous activity and have attempted to work out an "organo-dynamic concept" of psychiatry that would avoid the two former difficulties mentioned above, i.e., the risk of "neurologizing" psychiatry, and the risk of oversystematizing or abstract construing.

For it is true that *only by a thorough revision both of the Jacksonian concept and of psychiatry can Jackson's principles be applied to the latter*. It is to this double undertaking that I have applied myself in the works listed in the bibliography. Obvi-

ously, I cannot think of expounding this concept in all its detail and with all its basic theoretical aspects here. I shall therefore limit myself to a few indications which might enable the reader to understand the inner relationship between the assumptions which make up a scientific hypothesis based on Jackson's concept, but extended to the dimension of mental diseases and consistent with their psychopathological structure.

When speaking of the evolution and dissolution of nervous functions through a literal application of Jackson's concept, one necessarily refers to the model of the physical structuration of the nervous system: To be sure, from Jackson's point of view the nervous system is not merely a mechanical apparatus but a system of functional integration, as Sherrington (86, 87, 88) was to show so admirably later. But Jackson's concept, when applied to nervous conditions, moves, as it were, in the cerebral space, at the levels of and within the hierarchical structure of its centres which are raised above and superimposed on each other in the functional verticality of the nevraxis.

The application of this schema to mental diseases implies that its spatial concepts have been superseded by more global and more energetic ones. This means that it is necessary and adequate for the application of the concepts of evolution and dissolution to the realm of mental pathology that the latter take the form of a pathology of the energy integrating system. I leave aside the problem of knowing whether the concepts of integration, functional circuit or the "feed-back" of cybernetics (2, 3, 95) exhaust all the possibilities of conceptualizing the nervous energy of integration. But it seems obvious that whatever, so to speak metaphysical, interpretation can be given for this energy and for its functional devices, the latter make up the very reality of the *integrating (or integrative) activity* as distinguished from the functional reality of the

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apparatuses and centres which form within the nervous system a series of structures that are *integrated*. In this fashion it should be obvious that psychiatry does not oppose itself to neurology in the way that the purely psychic or, if one prefers, the spirit does to the materiality of the nervous system, but that neurology and psychiatry are taken as two different facets of nervous pathology. Neurology is the pathology of the partial disintegrations of the *instrumental*, sensori-motor, agnosic, praxis functions, which correspond to localisations of functional centres—whereas psychiatry is the pathology of the nervous integration activity itself at its higher level(25). In this way, the first objection which comes to the mind in regard to the application of Jackson's principles must fall away since this application does not postulate a pure and simple identity of neurology and psychiatry, but on the contrary marks their boundaries. In regard to the second objection, which consists in wondering to which reality the concepts of evolution and dissolution of psychic functions correspond—which amounts to wondering whether speaking of the evolution and dissolution of psychic functions is not idle talk—I also think that the facts can furnish an answer. Psychic activity, *i.e.*, that mass of all psychological phenomena which enters into the field of consciousness or builds up the personality (the Ego), cannot be reduced to nothing by an improper use of the Cartesian dilemma, for it is impossible, in practice, to consider psychic activity either as a "thing" which occupies the brain space, or as a spiritual, bodiless essence, such as must be thought of as being beyond the reach of knowledge. It is therefore better not to place oneself in the simple evolutionary tradition of Spencer, but rather to adopt the perspective of those dynamic philosophies which have comprehended psychic reality in its structure and organisation, namely—to mention those which have inspired me most—the philosophies of Bergson(5, 6), Husserl and Nicolai Hartmann. However, the philosophical reference is here really less important for us physicians than it would appear. What is important is to comprehend those facts which, corresponding to this reality of psychic life, can be the

object of the application of the concepts of evolution and dissolution. In this regard, two facts are decisive. The first one is the development of psychic life (genetic psychology), by which I mean its gradual integration from the first stages of the experience and maturation of the nervous system to its organisation in adulthood, an organisation which, incidentally, remains in a sense always unachieved. All the works of genetic psychology (Freud, Piaget, W. Stern, Ch. Bühler, Sullivan, Wallon), as well as all the research on comparative psychology(96), show and demonstrate that man's psychic life goes through a series of stages or structural levels. This means that *no psychology and no psychopathology can presently be formed without taking into account the evolution of psychic life and of the person*. One is dealing there with a matter of a mass of facts whose importance, I assume, is obvious to everybody. This empiric reality justifies the application of the principle of evolution in psychology and consequently in psychiatry.

The second fact is that psychic life, which differentiates and integrates itself in those forms of existence and consciousness which form the adjustment of man to the real and to his fellow man, can disintegrate and dissolve itself, notably in sleep to form the dream. This phenomenon has always been considered basic by psychiatrists and philosophers, notably by Moreau de Tours(73). The reader may refer to my *Etude No. 8* which, in my book *Etudes Psychiatriques*(28), I devoted to this topic. Let us recall that Jackson ascribed a central importance to the dream, which actually is at the very centre of psychopathology, since it discloses the hierarchic structuration of the psychic being. It is indeed impossible not to see that if a sleeping man dreams, this means that waking life establishes itself at a higher level than that of sleep. This commonplace or platitude constitutes a fact which is absolutely basic for all psychopathological speculation. Thus we can say that the reality of psychic life presents itself to us as an evolution of the integration levels of the consciousness and of the person, levels whose sum forms the psychic activity proper to every man and that this normal integration of psychic life can undergo a

disintegration and a dissolution, which is a lapse into the dream and the imaginary. This amounts to saying that psychology and psychopathology necessarily imply the genetic dimension of evolution and the structural dimension of a hierarchy of integration levels, so that the *disorganisation* of psychic life which is the object of psychiatry necessarily refers us back to the concept of its *organisation*.

Thus thoughts and observations of facts as considerable as those we have just recalled, far from warning us against the application of Jackson's basic concepts to psychiatry, demand it. It is on the basis of this idea that, about the same time as Max Levin (64), I published with Julien Rouart the first monograph (45) on *The application of Jackson's principles to a dynamic concept of Neuro-psychiatry*.³

Since that time I have not ceased to work in that direction in my writings (22-42) and in my verbal teaching. I must add that this way of viewing the "*organo-dynamic concept*" of psychiatry is closely related to the concepts of Janet (22, 52, 53, 54), Monakow and Mourgue (72), E. Bleuler (10, 11, 12, 13, 24), Kretschmer (60), etc. In my eyes it represents a kind of common denominator of most of the great modern concepts of psychiatry, psychoanalysis and neurology, as so well perceived by P. Schilder (83, 84, 85).

I will now successively expound the 4 basic statements of the conceptual system which under the name of the "*organo-dynamic concept of psychiatry*" can be extracted from Jackson's principles, provided, as mentioned above, that *both Jackson's concept and the concept of psychiatry be largely modified*.

First Statement (psychological) : Mental disease is implied in the organisation of the psychic being. As Jackson strongly emphasized, *disease does not create, it sets free*. This means that pathological conditions form a destructuration of a structure which contains at its highest organisational level

pathological or inferior elements. This amounts to saying, and it is the fundamental intuition of Jacksonian pathology, that the pathological aspects of the disease are implied in the very organisation of the being. This is certainly true for pathology as a whole but is manifested with greater obviousness in psychiatry than elsewhere. It is obvious that the forms of structuration of psychic life called intelligence, affectivity, and the person, form organisations whose destructuration to inferior or archaic levels represent the various forms and degrees of mental illness. For to be demented, oligophrenic, schizophrenic, manic, melancholic or neurotic is to remain on or regress to an inferior level of the organisation of psychic life. Thus we can say that man's insanity or, more generally speaking, all the modalities of "mentally sick man" are contained in the very organisation of the psychic being. This Jacksonian point of view is of absolutely primary importance and as such is unanimously accepted by all theories and schools. It is enough to enunciate it to understand its importance for all problems which derive from the "*values*" of the superior or inferior levels of human behaviour. *Insanity is implicit in every man*. It ceases to be implicit and becomes actual when the man falls asleep and dreams, and also at various degrees and under diverse forms when the organisation of his psychic being is destructured.

The basic concept of the *unconscious* which we owe to Freud and the psychoanalysts thus acquires all its value in this perspective, because to say that insanity is immanent to human nature means that the man who becomes insane falls into the phantasm or "imaginary" (82) of his unconscious. In that way one perceives all the importance and limitations of Freudian psychopathology which postulates the stratification of the psyche, its evolution and its regression into mental diseases.

Second Statement (phenomenological) : The structure of mental disease is basically negative or regressive. Just as the dream not only is the guardian of sleep (as Freud said) but also its prisoner, so mental disease seems always conditioned by some deficit disturbance or disorder (negative factor). This regressive aspect of mental disease

³ This monograph contained a French translation of one of Jackson's Croonian lectures, "Factors of Insanities" in the *Selected Writings*, Vol. II, p. 411-421, with elaborate comments to this first, tentative approach on Jackson's part to psychiatric problems.

has always been clearly noted by clinicians. In that way the basic concepts of psychiatry such as dementia, confusion, schizophrenia, *etc.*, imply this disorganisation of the psychic being. Even at the superior level of mental pathology, *i.e.*, in paranoia or in the neuroses for instance, although the negative trouble is less evident, its reality is postulated by the almost constant use of such concepts as "being unbalanced" or "being immature." To be sure, many psychiatrists imagine that they can consider these "delusional reactions" or "neurotic reactions" as if they did not entail any negative structure. But the thorough revision of clinical analyses which we owe to the phenomenological school (7, 8, 55) and especially the German school, is of paramount importance. Actually, in all mental diseases existential analysis enables us at the same time to understand the motivations and the alterations of the experience of existence in, for instance, a schizophrenic or obsessive patient, and to outline the *limits of this comprehensibility*. This means that, in the end, phenomenological analyses of the "Dasein" of mental diseases are able to reveal the formal disturbances of thinking, the conditions under which the symptoms *come to light and show themselves, the disruption of the temporo-spatial structure of consciousness, etc.* In that way this new clinical and semeiological approach has rendered the great service of enabling us to grasp the limitations set to the mentally sick man's comprehension of the mental disturbance which makes him sick. One of the most interesting aspects of this phenomenological analysis of mental diseases has been to show that they are "*diseases of reality*" and that their reality consists precisely of the unreality, or the "*imaginary structure,*" of their basic experiences (41).

Thus, through this long detour, the Jacksonian principle of the defective or negative aspect of mental disease is validated. This amounts to saying that the illness is not brought on save by a disorganisation of the being which leaves its *negative imprints* and characteristics on the various modalities of the disease. If the Jacksonian principle of the negative character of illness can thus be rejuvenated with the help of the most modern acquisitions of clinical psy-

chiatry, let us emphasize once more that the greatest clinicians of all times have never ceased to consider mental diseases as being the effect of a certain heterogeneity introduced into the normal flow of psychic life, and hence it can well be said that the Jacksonian concept of dissolution or, if one prefers, of destructureation is a fundamental dimension of mental pathology and that it concurs with the most classical as well as with the most modern profundities of existential analysis.

Third Statement (clinical) : Mental diseases (psychoses and neuroses), through their dynamic structure and evolution, typify levels of agenesis or dissolution of the psychic organisation. The mental diseases which psychiatry studies are not *entities, i.e., sui generis* conditions, dependent on a kind of specific essence such as that which a certain concept of the endogenous or hereditary origin of diseases would seem to have established. Neither should they be looked upon as specific anatomoclinical conditions. Hence psychiatric nosology finds itself much perplexed and there is no lack of authors (see my Etude No. 20, *The classification of mental diseases*, and Menninger, 71) who declare that mental diseases do not exist, that they are reducible to a kind of unitary psychosis (65) or that psychiatry has for object mere behaviour variations, symptoms which do not make up defined species and not even definable ones. Here again, the concept of levels of dissolution as introduced by Jackson enables us to understand in what direction a clinical and scientific solution to this problem eventually has to be found. If mental diseases are the effect of a certain disorganisation of the psychic being, then it is possible to give them a classification *based on the organisation of psychic life itself*, and it is also possible to consider that these typical forms of disorganisation—without confusing them with nosologic or specific anatomoclinical entities—make up clinical species which are characterized by a precise clinical physiognomy, a recognizable structure and an identical course of evolution. In this perspective mental diseases are therefore groups of disturbances, which correspond to a certain level of dissolution or destructureation of the psychic being and which have

a particular, clinically identifiable, course of evolution.

Now, the organisation of psychic being implies two dimensions: the dimension of *the organisation of the present field of consciousness* and the dimension of *the historical development of the personality*.

Any psychiatry, and notably any psychiatric nosology which is not rooted in this reality of psychic organisation, is artificial, whereas referral to this reality can enable one to see clearer into the problem of morbid species and their classification. This is the idea behind the whole work of clinical revision which I have undertaken in the last 20 years, namely to check the empirical character of a classification as presented in the following table:

PATHOLOGY OF CONSCIOUSNESS (Acute Psychoses)	PATHOLOGY OF PERSONALITY (Chronic Psychoses and Neuroses)
Manic-depressive attacks. Acute delirious and hallucinatory states. Oneiroid states. Confusional-oneiroid psychoses.	Character disorders. Neuroses. Chronic delusions. Schizophrenia. Dementia.

I have devoted a whole book to the acute psychoses and to the structure and deconstruction of consciousness (28). I believe I have demonstrated there that all acute psychoses (attacks of mania, melancholia, acute delirious psychoses, oneiroid or confusional-oneiroid conditions) and all crises which one observes in manic-depressive psychoses and epilepsy present themselves to us clinically as *degrees of deconstruction of the field of consciousness*. The "field of consciousness" is the organisation of present experience, and this implies a functional stratification giving a greater or lesser degree of order to the temporal and spatial structure of our experience. Thus one can say that all these acute psychoses actually are lapses into the imaginary, more or less analogous to what happens in the sleeping or dreaming state, and that Jackson's concepts can be applied to these levels of deconstruction in a particularly adequate way.

The system of personality,—i.e., the permanence of the organisation of the Ego—implies a development, an organisation and a disorganisation of its own. Be it the matter of the so-called dementias or, at a higher

level, of schizophrenia or, at a higher level, of systematized or fantastic delusions (paranoia or paraphrenia) or, at a still higher level, of neurosis, it is always the *reasonable being*, the one which constitutes the system of the person, which happens to be disorganised. In the degree to which such disturbances encroach upon the construction of the permanent system of the person, they have, in a sense, necessarily a character of chronicity. I cannot here elaborate upon all that make up the essentials of my clinical work (24, 25, 26, 32). Let me simply be allowed to show in what sense the application of Jackson's principles can reorientate and renew the problem of the acute mental diseases and the chronic psychoses and neuroses from top to bottom.

Fourth Statement (etiopathogenic): *Mental diseases are determined by organic processes*. The interminable discussions about the psychogenesis (31, 61) and organogenesis of psychic disturbances can be overcome only through a hypothesis in agreement with the Jacksonian concept of a process with a double action—negative and positive—i.e., a process of dissolution (or regression, deconstruction, disorganisation, etc.). A deep-reaching revision of the concept of causality in psychiatry (32, 40, 42) is called for, and it is the general concept of *disorganisation of the psychic being* which must form the major concept of etiopathogenesis in psychiatry; this concept implies two basic types of causality: that of a negative or defective condition, and that of a positive elaboration of a reorganisation of the "remaining part" at a lower level.

All the clinical pictures which characterize the various mental illnesses depend upon the formation of symptoms of abnormal psychic life (delirious experiences, obsessions, depersonalisation, hallucinations, pathological affects, impulses, eccentricities, malad-

justed behaviour, etc.) and this symptom formation requires the combined and complementary action of disintegration and the liberation of inferior states.

Seen in such a way, the organo-genetic character of the negative process and the psychic causality of its manifestations become quite obvious, and hence one can say that psychic causality does not determine the mental disease since it only determines the manifestations of the regression which constitutes it.

Such a viewpoint is at the same time removed from the naïvetés of psychogenesis (which makes mental diseases dependent upon a more or less unconscious psychic intentionality); from the sociogenesis (which makes them dependent upon reactions or "maladjustments" to situations or stimuli from the external milieu); and from the absurdity of mechanistic theories (which make the symptoms dependent upon their mechanical unleashing through brain lesions). We must clarify here in a few words some aspects of this dynamic concept of the generative process which at the same time entails the disorganisation of the psychic being and its organisation at an inferior or archaic level.

1. *Articulation of the negative and positive structure.* It is not the question here of isolating, more or less artificially or abstractly, a number of negative or positive signs as if they could be said to form two parallel sets. The symptomatology that is the object of a phenomenological analysis of psychopathological experiences always represents the positive aspect. The negative structure, i.e., what is missing, becomes apparent only under the observer's scrutiny or under comparative analysis. Let us recall that the phenomenon of sleep-dream in this regard constitutes a basic pattern which is valid for all the aspects of psychopathology. The object of the phenomenology of this phenomenon is the dream or oneiric thinking, i.e., a certain form of experience of the imaginary. Sleep as the negative factor does not appear to us except as a concept belonging to our explanation. Thus we can better understand the futility of discussions which often arose about the negative and positive symptoms in pathology, notably in the problem of schizophrenia. As a matter of fact,

it is well known how Bleuler's differentiation of primary and secondary symptoms (10, 38, 69) has been the starting point for Byzantine discussions. However, this differentiation is a basic one and, as I have emphasized (24), it links the Bleulerian concept of schizophrenia to the Jacksonian concept of the illness. Its deeper meaning is more doctrinal than clinical: it is the idea that there is a discrepancy between the direct, negative action of the process and the indirect reaction of the remaining psyche. It is this discrepancy which I have suggested calling the *organo-clinical discrepancy*: it constitutes the more authentically dynamic aspect of the organo-dynamic concept. In fact, it makes it evident that the clinical picture essentially develops from the psychic forces set free by the dissolution process, without the symptoms depending directly on this process. In other words, any clinical picture of mental disease (as well as any dream) implies a negative structure in the eyes of a theoretician and a positive structure comprised of the more or less symbolic form of the imaginary as lived by the individual, namely the pressure of his unconscious. It seems to me that this concept coincides with the ideas so strongly expressed a few years ago by P. Schilder (83, 84, 85) and also by Cassirer (15).

2. *Psychiatry and brain pathology.* I can devote only a few words to this basic aspect of the organo-dynamic concept. I shall content myself with showing what interest this concept can have, not only for the physiopathological revolution which we owe to Jackson (51), Head (48, 49), Goldstein (46), Monakow and Mourgue (72), but also for the most recent progress in neurophysiology such as resulting from Hebb's research (50), or from the proceedings of the well-known London Symposium (92).

This trend of neurophysiological thinking emphasizes the energetic character of the functional totality of integrational activity, concepts which are precisely those most likely to lead to the application of Jackson's principles to psychiatry.

It is of course of the greatest importance to note that the centres of subcortical psychic regulation, which had been hypothetically conceived by M. Reichardt (72)

and Guiraud (47), are now understood more fully and scientifically since the experiments or observations of Magoun (66), Mourgue, and Penfield (75, 76). Thus, the "old brain" which consists of the brain stem and Turner's rhinencephalon reappears as an *encephalic core*, which not only regulates, as has been said, the phenomena of sleep and waking state, but also seems to have a *function of organisation of the field of consciousness*. This is what I have tried to demonstrate in Vol. III of my *Etudes*, devoted to the organisation and disorganisation of the temporo-spatial structures of the present experience which forms the operational field of consciousness. The remarkable research of all the authors who, after Kaada (58), have demonstrated the role of the rhinencephalon (with its connection with the hypothalamus) in the vegetative, emotional and instinctive-affective life, is of the greatest interest with regard to the integration of emotional life into the field of consciousness. Thus we can understand why Walshe (94) recently emphasized the relevance of Jackson's concepts to all his recent discoveries. In any case, the dynamic aspect of functional disintegrations of this vast system seems to have some relation to all types of crises which take the form of "attacks," whether those of the acute psychoses, of "delirium," of epilepsy, or of manic-depressive states.

Naturally, the pathology of personality (Sullivan's "self-system") rebels against this pathology of consciousness or at least links itself with it only in a few of its facets, as I intend to show in future writings. But it seems that the disorganisation of the personality system also necessarily implies a neurophysiological substratum or, in a more general way, a neuro-hormono-somatic one. Actually, the organisation and development of the person is so closely bound to the maturation of the nervous system and the growth of the body and its decline during senile involution, that it is unthinkable for the pathology of Ego-disorganisation not also to depend on biological processes. This point seems obvious even with respect to such personality diseases as the neuroses, which factually depend on genotypical conditions or biological determinants, as so well shown in Eysenck's studies on "neuroticism."

In this regard it is certainly appropriate to emphasize the considerable importance of the whole heredo-pathological aspect of psychiatry which has been so well evidenced by the Munich School, by Kallmann, Frazer Roberts, Sjögren, etc.

3. *Psychopharmacology*. I have shown how much Jackson's concepts were related to those of his French contemporary, Moreau de Tours (30). This is to say, that in the eyes of the organo-dynamic concept of psychiatry based on Jackson's principles, all progress in the field of our knowledge of pathogenesis or in the therapy which we owe to contemporary psychopharmacology realizes a kind of *experimental checking* of the major principles of the organo-dynamic concept. I do not believe it is necessary to enlarge upon it. Let me just recall that in the eyes of Freud himself, if we are to believe what Jones said about it (57), a progress in the therapy of neuroses will be realized as much with medications as with psychotherapy. Actually, to refer once more to the phenomena of dream and sleep and perhaps also to the clinical experience of the mental disturbances of epidemic encephalitis, the "model psychoses" actualize conditions of destructuration of consciousness, i.e., of lapses into the world of phantasms and the imaginary, which once more emphasizes the indissoluble complementarity of the negative and positive structure of mental disturbances.

Such are the basic aspects of the organo-dynamic concept which I have attempted to draw from the application of Jackson's principles to psychiatry and which have often been termed as *neo-Jacksonism*. The foregoing account may perhaps seem somewhat unsatisfactory due to its simplicity, but I beg the interested reader to refer to the works I have published the last 20 years, in order perhaps better to understand what interest can lie in this theoretical position.

Not only a theoretical but also a practical position, because actually a number of important practical corollaries issue from and perhaps justify it. All the practical problems which mental illness presents in regard to human values are too often disregarded or regarded as insoluble in the various psy-

chiatric theories. By putting the accent on the negative structure of mental illness, the concept which we have just expounded shields psychiatry from the fundamental criticisms which are most frequently brought against it. Actually, in this perspective *the difference between the normal and the pathological* (14) is not considered a pseudoproblem but a fundamental one; and practical corollaries are deducted from it in regard to the social and moral problems of penal responsibility, of moral conscience (35), religious life (36), and artistic creation (37). All these problems are viewed in the same perspective and in the light of the very principle of Jackson's that *illness does not create*. Actually, mental illness always appears to us in all its forms as a narrowing, a shrinking of human existence, and—as we have often repeated—a *pathology of freedom*.

Finally, such a concept of mental disease, which profoundly integrates the data of neurophysiology, the contributions of phenomenology, and the discoveries we owe to the psychoanalytical school, not only does not exclude psychotherapy, but on the contrary demands it. Its effectiveness and its limitations are in agreement with the very hypothesis we are presenting (39, 40, 41).

In conclusion, let me say that Jackson's principles far from being an aftermath of the somewhat obsolete Spencerian philosophy of the 19th century, on the contrary may be in accordance with the most profound trends in contemporary medical thinking (42).

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THE ORIENTATIONS OF LEADERS IN AN URBAN AREA TOWARD PROBLEMS OF MENTAL ILLNESS¹

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There is no firm consensus about the terrain and boundaries of mental illness within the realm of deviant behavior. In a study of a random sample of American adults, Star found, for example, that while three-quarters saw mental illness in a case description of paranoid schizophrenia, only a third made the same judgment about an illustration of simple schizophrenia (cf. 1). Several investigators have reported strong variations in public attitudes towards problems of mental disorder, especially among persons of different educational levels (cf. 2, 3, 4). It seems easy to agree with Hollingshead and Redlich that "Whether abnormal behavior is judged to be disturbed, delinquent, or merely idiosyncratic depends upon who sees it and how he appraises what he sees" (5). Moreover, as these authors emphasize, we have barely begun to understand the processes of evaluation which play such large parts in determining who receives psychiatric treatment for mental disorder.

There are a number of reasons for focusing on community leaders in order to study the appraisal of abnormal behavior. Leaders are major agents of the standards of evaluation in society; in testifying as to their nature and in acting on them, leaders add both articulate expression and weight to

such standards. As leaders are sometimes innovators as well, they may also have major roles in influencing social norms. On either count—as agents of public standards or as innovators—they represent strong forces to be considered in relation to processes of desired social change. Their capacity and inclination to recognize problems of mental illness, coupled with their power to implement and support community programs, could prove important in prevention and treatment.

THE PROBLEM

The setting of the present study is a health district in New York City. Referred to as a "bedroom community" for the city's commercial and industrial center (6), the district has a population of about 300,000 individuals. The families are mostly lower middle and working class. All but a small minority come from one of 4 ethnic backgrounds: Jewish, Irish, Negro, and Puerto Rican.

Questionnaire interviews, averaging about 1½ hours in length, have been conducted with 87 community leaders in this health district. The results presented here center on their responses to case descriptions of 6 types of mental disorder. Judgments by the leaders about the presence of mental illness and/or seriousness of problems in these cases, are analysed in relation to their tendencies to recommend help from the mental health professions. The central question governing this analysis may be stated as follows: *Do the orientations of the leaders vary with the order of activity in which they hold their primary positions of leadership?*

SELECTION OF COMMUNITY LEADERS

The first step was to define community leaders. In a recent critical analysis of research on community leadership, Rossi states the problem in the following way: To study power, influence or leadership, we can center on: 1. The "potential" for power

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inherent in positions of formal authority; 2. Definition of influence in terms of reputation in the community; and/or 3. Actual processes of influence exerted around particular issues(7). In the present research, reliance is placed on the formal position and reputation approaches.

The procedure was as follows: 7 types of activity were designated—political, legal, economic, educational, religious, civic-social, and communications. Formal positions in each type of activity were enumerated according to 3 criteria: 1. The top position, in the largest and/or most important local organization (or organizations of equal size and importance) of each type of activity was specified;³ 2. Additional positions were listed when they met criteria considered relevant in studies of community leaders conducted in small and medium sized cities (8, 9); 3. Positions logically intermediate between those already selected were added. To illustrate, congressmen and state senators from the area were selected as occupying the top positions in the largest and most important political organizations in the health district; city councilmen were selected since theirs was a position considered relevant in other studies: intermediate are positions such as Assembly District leaders of the major political parties, and state assemblymen, which were also included.

For Negro and Puerto Rican subcultures in the health district, there often was no exact counterpart to the positions designated for dominant Jewish and Irish groups. For these relatively disadvantaged groups, any reasonable approximations were accepted, e.g., we took a Puerto Rican candidate for political office since there were no political offices held by Puerto Ricans comparable to those designated.

A supplementary nomination technique was used to locate additional leaders. Nomination as either a "respected," "feared," and/or "influential" leader by at least 5 (or 3 for Negroes and Puerto Ricans) of the persons selected, by position criteria, was held sufficient to warrant adding the individual to the list, provided that his lead-

ership responsibility was primarily within the health district. Actually, only 4 new persons qualified on this basis.

A total of 91 persons were selected, with 87 of whom we succeeded in obtaining interviews.⁴ These 87 constitute the main leaderships of the various ethnic groups from 5 main orders of activity: political-legal, economic, educational, religious, and, for the Puerto Ricans, social-recreational. The leadership composition of each of these orders can be summarized as follows:

1. *The political-legal order* contains 27 leaders. These include: state senators, district leaders from the Democratic, Republican, and Liberal parties, state assemblymen, city councilmen, heads of such civic-social organizations as the local branch of the League of Women Voters and the largest American Legion post, municipal court justices, and police captains.

2. *The economic order*, with 14 leaders, consists for the most part of high banking officials and heads of businesses employing 75 or more individuals, and heads of such economically oriented civic-social organizations as the Chamber of Commerce and businessmen's lunch clubs. Because of the nature of the area which is largely a "bedroom community" for the center of the city, we could find no large, local union organizations for workers in local business and industry. Thus labor leaders are not included in our study.

3. *The educational order* provides 25 leaders, mainly from public educational institutions: a college president, an assistant superintendent of schools, all the public school principals, the chairmen of the local boards of education, and several heads of education oriented associations and after school programs.

4. *The religious order*, with 14 leaders, consists of Catholic, Jewish, and Protestant clergymen.

5. *The "social-recreational" order* provides 7 leaders. They are heads of social clubs formed on the basis of common hometowns in Puerto Rico.

As a group, the 87 leaders are highly educated and economically successful. Almost three-quarters are college graduates and

³ Sometimes this information was a matter of public record as in the political order. Other times, as in parts of the religious and economic orders, it was necessary to use other informants.

⁴ Three of the 4 with whom we were unsuccessful came from the political order.

have usually gone on to professional or graduate training; about two-thirds have incomes of \$10,000 a year or more, and except in the educational order, most are male. Nearly three-fourths are between 40 and 59 years old; most of the Spanish speaking leaders were born outside the continental United States, while most of the Jewish and Irish leaders are children of immigrant parents. Regardless of ethnic background, however, the large majority of the leaders have lived the greater part of their lives in the New York metropolitan region.

As would be expected, the strongest reputations for influence are ascribed by the group as a whole to leaders in the economic and political-legal orders, and on the average, these leaders received somewhat over 2 nominations apiece. In contrast, leaders in the religious order averaged slightly more than half a nomination each, and the educational leaders slightly less than half a nomination each, while none of the social-recreational leaders received a nomination.

MEASURES OF ORIENTATIONS TOWARD PROBLEMS OF MENTAL DISORDER

The orientation of leaders was indicated by their responses to brief case descriptions of 6 fictitious persons, each illustrating a particular type of psychiatric disorder—paranoid schizophrenia, simple schizophrenia, anxiety neurosis, alcoholism, compulsive-phobic behavior, and juvenile character disorder. Designed by Shirley Star with psychiatric consultation, all 6 have been used in other studies, notably in the previously mentioned survey (*cf.* 10), and by Elaine and John Cumming in their study of a Canadian community (11).

In the course of the interview, each leader was questioned about the 6 case descriptions, *e.g.*, the case describing paranoid schizophrenia was read by the interviewer in the following manner:

Now I'd like to describe a certain kind of person and ask you a few questions about him . . . I'm thinking of a man—let's call him Frank Jones—who is very suspicious; he doesn't trust anybody, and he's sure that everybody is against him. Sometimes he thinks that people he sees on the street are talking about him or following him around. A couple of times, now, he has beaten up men who didn't even know

him, because he thought that they were plotting against him. The other night, he began to curse his wife terribly; then he hit her and threatened to kill her, because, he said, she was working against him, too, just like everyone else.

The leader was asked first whether he thought there was anything wrong with this man. If he said yes, he was then asked whether he thought that Frank Jones had some kind of mental illness. Then, *regardless of whether or not* he said yes, he was asked whether he thought the problem was serious, and what kind of help, if any, was needed.

In general, the leaders saw all 6 cases as examples of abnormal behavior. Only 2% of the leaders said there was nothing wrong in as many as 3 of the cases; an additional 8% judged nothing wrong in 2 of the 6 cases; 17% saw nothing wrong in one of the cases. Only in the case of the compulsive-phobic did as many as one-fifth of the leaders say there was nothing wrong, and the distribution of these leaders in the various orders of activity and ethnic groups appears to be random.

The leaders differed in their judgments of whether what is wrong indicates mental illness; whether it is serious; and in what should be done about the problems described. Their judgments provide us with 3 different measures of their orientations towards these types of deviant behavior. Let us describe each of these measures:

Judgments by the leaders about the presence or absence of mental illness vary greatly from case to case. They all saw mental illness in the description of paranoid schizophrenia; 72% saw it in the example of simple schizophrenia; 63% in the alcoholic; about 50% in the anxiety neurosis and in the juvenile character disorder; and 40% in the compulsive-phobic. These judgments closely approximate the pattern required for Guttman scales (12).⁵ Thus, in general, if a lead-

⁵ "+" is assigned to each judgment by a leader that something is wrong with a case and that the problem is mental illness. All other responses are assigned "-". Sixty percent of the respondents are scale types. Calculated for all 6 cases, reproducibility for the scale is .92: Menzel's coefficient of scalability is .66(13). Errors of reproducibility are distributed among 18 different re-

er sees mental illness in a case recognized by fewer of the leaders than another case, it is highly probable that he sees mental illness in the more generally recognized case as well, *e.g.*, a leader who judges the compulsive-phobic mentally ill, is likely to see mental illness in each of the remaining 5 cases; one who judges the juvenile character disorder mentally ill will not necessarily so judge the compulsive-phobic case, but will be highly likely to see mental illness in the remaining 4 cases. Since judgments are made for 6 cases, the scale of these judgments orders the leaders into 7 ranks on magnitude of tendency to see mental illness in the cases. By collapsing the 7-scale ranks into 3, we distinguish between what we term "low," "intermediate," and "high" tendencies to see mental illness in the cases. "Low" are those leaders who, according to the scale, see mental illness only in one or both of the psychotic cases; "high" are those who see it in at least 5 of the 6 cases; and "intermediate" are those who see mental illness in more than the psychotic but in less than 5 of the cases.

The leaders' judgments regarding the seriousness of the problem in each of the 6 cases, whether or not the case is seen as mental illness, also conform to the Guttman scale pattern. The scale order of the items, however, is somewhat different from judgments about mental illness: paranoid schizophrenia, the case most likely to be judged mentally ill, is also most likely to be regarded as serious (with 95% of the leaders); alcoholism is next with 77%; then juvenile character disorder, and simple schizophrenia, each with somewhat over 60%; anxiety neurosis, 27%; and, in the same order as before, compulsive-phobic behavior, 6%.⁶ The meaningful distinction this time

seems to be not between the 2 psychotic as against the other 4 cases, but rather between the 3 cases which appear to threaten others actually or potentially, and those which appear to harm primarily the individual. According to the scale, the disorders which seem to threaten harm to others—paranoid schizophrenia, alcoholism, and juvenile character disorder—are more likely to be judged as serious than the cases which appear to harm mainly the individual—simple schizophrenia, anxiety neurosis, and compulsive-phobic behavior. Collapsing scale ranks according to this distinction, it is possible to speak of leaders with "low" and "high" tendencies in the following terms: "Low" are those who, according to the scale, do not extend their definition of what is serious beyond the 3 types of disorder which appear to threaten others; "high" are those who extend what they regard as serious, in addition, to one or more of the cases which appear to harm primarily the individual.

The third and last measure of orientation is what kind of help, if any, the leaders judged was needed in each of the 6 cases. We distinguish here between responses which refer the case for treatment and those which do not. Thus, a leader may say that a case needs treatment in a mental hospital or outpatient psychotherapy, help from a psychiatrist, psychologist, or professional guidance counselor, workup by a psychiatric social or family agency, and so on. In contrast, the leader may merely recommend advice from a clergyman, treatment by the family physician, help from friends or family, "positive thinking," *etc.*; or, he may indicate that no help is needed. Whenever a leader referred the problem to the mental health professions, we took his response as an indication of a mental health orientation on his part, regardless of the nature of ad-

sponse patterns; the 2 most frequent error types (with the cases ordered as above) are + - - - + - occurring 4 times and + + + - - + occurring 5 times. A problem arises in that the scale includes an item which splits 87 to zero and hence cannot contribute to error. When this item is removed from computations, reproducibility remains an adequate .90; but Menzel's coefficient of scalability dips to .57, raising the possibility that we may be working with a "quasi" rather than a "true" scale.

⁶ "+" is assigned to the response that something is wrong in a case and the problem, regardless of

whether or not it is seen as mental illness, is serious. A "-" is assigned to all other responses. Two-thirds of the respondents are scale types. Reproducibility for the scale is .94 and Menzel's coefficient of scalability is .74. Errors of reproducibility are distributed among 13 different response patterns; the most frequent error types (with the cases ordered as above) are + - - - + - and + + - + + -, occurring 4 times each, and + - + - - - and + + - + - -, occurring 5 and 6 times respectively.

ditional suggestions that he might have made.

The percents recommending help from the mental health professions for each of the 6 cases is as follows: paranoid schizophrenia, 87%; simple schizophrenia, 74%; juvenile character disorder, 70%; anxiety neurosis, 58%; alcoholism, 49%; and compulsive-phobic behavior, 46%. Unfortunately, not enough of the criteria are met this time to warrant scaling the cases on these recommendations.⁷ On the average, the leaders made referrals to mental health professions in almost 4 (3.78) of the 6 cases. It seems reasonable, then, to take as an index of low tendency those who advocate help by the mental health professions in 3 or less of the 6 cases; high tendency is indicated when such designations are made for 4 or more of the cases.

In the leader group as a whole, each of these 3 measures is positively related to the other 2. With the cutting points as described above, chi-square tests show that each of these relationships is significant at the .01 level.

RESULTS

It is now possible to compare leaders from the different orders of activity on these 3 measures. The 7 Puerto Rican heads of hometown clubs will be omitted as providing too few cases for statistical analysis. They will be described later, on an impressionistic basis.

Our focus, then, is on the educational, religious, political-legal, and economic leaders. Our *a priori* expectation was that the educational and religious leaders, concerned with personal welfare and development in social and moral terms, would show orientations more compatible with a psychiatric frame of reference than those dictated by the power and material success emphases in the other 2 orders. The educational and religious leaders would thus have higher tendencies to judge the cases mentally ill, regard the disorders as serious, and recom-

mend help from the mental health professions. The results shown in Tables 1, 2, and 3, indicate that this view must be altered.

Table 1 shows that tendency to see mental illness in the cases varies with order of activity, but only partly as predicted.

TABLE 1
Tendency to See Mental Illness in Fictitious Case Descriptions According to Leaders' Main Order of Activity

TENDENCY TO JUDGE THE CASES MENTALLY ILL	ORDER OF ACTIVITY			
	EDUCATIONAL	RELIGIOUS	POLITICAL-LEGAL	ECONOMIC
	%	%	%	%
High	48	14	56	21
Intermediate	28	36	14	14
Low	24	50	30	65
Total %	100	100	100	100
Total Respondents	(25)	(14)	(27)	(14)

Note: Chi-square test indicates that the probability is less than .05 that these overall results could have occurred by chance. With "high" and "intermediate" collapsed, chi-square test shows that the expected difference between the educational and the economic leaders is significant at the .05 level; with "intermediate" and "low" collapsed the unexpected difference between the educational and religious leaders is significant at the .10 level; the unexpected difference between the political-legal and economic leaders is significant at the .10 level with either "high" and "intermediate" collapsed or "intermediate" and "low" collapsed.

As expected, the educational leaders show relatively high tendencies to see the cases as mentally ill, while the economic leaders manifest relatively low tendencies. The religious leaders, however, seem nearer to the economic than to the educational leaders in this tendency, while the political-legal leaders seem more similar to the educational than to the economic leaders.

Consistent with the results contained in Table 1, Table 2 shows the expected high tendencies of the educational leaders and low tendencies of the economic leaders to regard the disorders as serious.

The religious leaders, who had relatively low tendencies to see mental illness in the cases, seem to have relatively high tendencies to regard them as serious. And the political-legal leaders, who had relatively high tendencies to see mental illness in the cases, appear to have relatively low tendencies to regard the cases as serious.

For the third measure of these leaders' orientations, we note the tendency to recom-

⁷ Responses failed to meet the criteria for Guttman scales mainly on the following grounds: only 46% of the respondents would have proved scale types; reproducibility would have been .89; Menzel's coefficient of scalability would have been .56; error would be high for the alcoholic.

TABLE 2

Tendency to Regard the Problems Described in the Fictitious Case Descriptions as Serious According to Leaders' Main Order of Activity

TENDENCY TO REGARD THE CASES AS SERIOUS	ORDER OF ACTIVITY			
	EDUCATIONAL	RELIGIOUS	POLITICAL-LEGAL	ECONOMIC
	%	%	%	%
High	84	57	44	29
Low	16	43	56	71
Total %	100	100	100	100
Total Respondents	(25)	(14)	(27)	(14)

Note: Chi-square tests indicate that the probability is less than .01 that these overall results could have occurred by chance; the expected difference between the educational and the economic leaders is significant at the .01 level; the difference between the educational and political-legal leaders is significant at the .05 level. The probability is greater than .10 that the difference between the religious and economic leaders could have occurred by chance; given the relative similarity between the religious and economic leaders on the other 2 measures of orientation (see Tables 1 and 3), however, this difference of almost 30% is regarded as important.

ment help from the mental health professions.

TABLE 3

Tendency to Advocate Help from the Mental Health Professions for the Problems Described in the Fictitious Case Descriptions According to Leaders' Main Order of Activity

TENDENCY TO ADVOCATE HELP FROM MENTAL HEALTH PROFESSIONS	ORDER OF ACTIVITY			
	EDUCATIONAL	RELIGIOUS	POLITICAL-LEGAL	ECONOMIC
	%	%	%	%
High	88	43	70	36
Low	12	57	30	64
Total %	100	100	100	100
Total Respondents	(25)	(14)	(27)	(14)

Note: Chi-square tests indicate that the probability is less than .01 that these overall results could have occurred by chance; the expected difference between the educational and the economic leaders is significant at the .01 level; the difference between the educational and the religious leaders is significant at the .01 level; and the difference between the political-legal and the economic leaders is significant at the .10 level.

Table 3 shows the expected difference between the educational and economic leaders. The majority of the political-legal and educational leaders, show high tendencies, and, the majority of the religious and economic leaders, show low tendencies to ad-

vice help from the mental health professions.

Before we consider the implications of these contrasts, let us see if there are factors other than order of leadership activity that could account for the differences. A number of additional characteristics of the leaders are strongly related to at least one of the 3 measures we have been discussing. The most important seem to be ethnic background and educational level. Age, with education, the factor most often reported as associated with attitudes toward mental illness in other studies (*cf.* 14), is not related to these 3 measures of orientation in the leader group.

Consider first the possible impact of ethnic background. There is only one large difference in the ethnic composition of the educational, religious, political-legal, and economic orders. In the educational order, 76% of the leaders are Jewish as opposed to a range of between 30% and 43% in the other three orders.⁸ We can test whether the high tendencies of educational leaders to see mental illness in the cases, regard them as

TABLE 4

Percent with High Tendencies on Each of the Three Measures of Orientation among Jewish Educational Leaders vs. Jewish Leaders from the Religious, Political-Legal and Economic Orders Combined

THE THREE MEASURES OF ORIENTATION	JEWISH LEADERS	
	EDUCATIONAL ORDER	OTHER ORDERS
	%	%
High Tendency to See Mental Illness in the Cases	42	21
High Tendency to Regard the Disorders as Serious	79	47
High Tendency to Advocate Help from Mental Health Professions	90	58
Total Respondents	(19)	(19)

Note: One-tailed t-tests of the difference between proportions indicate probabilities of less than .05 that the last two differences could have occurred by chance. Though not significant at the .10 level or better, the difference in tendency to see mental illness in the cases is in the same direction.

⁸ Chi-square test indicates the probability is less than .01 that the difference between the proportion of Jews in the educational order and in the other orders combined could have occurred by chance.

serious, and recommend help from the mental health professions can be explained by their predominantly Jewish background.

As Table 4 shows, the Jewish educational leaders have considerably higher tendencies on all 3 measures than the Jewish leaders in other orders of activity. Thus the preponderance of Jewish leaders in the educational realm does not account for the difference between the educational leaders and those in the other orders. Nor does ethnic background account for the contrasts among the political-legal, religious, and economic leaders, since the ethnic composition of these orders is roughly the same.

The leaders as a group are highly educated; however, there are differences in orientation between the approximately three-quarters who are college graduates and the quarter who are not, especially in tendency to regard the disorders as serious. Of the college graduates, 64% show high tendencies to regard the cases as serious as against only 24% of the leaders who did not graduate from college.⁹ As the percentage of college graduates range from 100% in the religious to only 29% in the economic order, educational level might well be expected to have influenced the differences among the leaders from the various orders of activity. By omitting those who did not graduate from college, it is possible to control the educational level of the leaders.

TABLE 5

Tendency to Regard the Disorders as Serious Among College Graduates in the Combined Educational and Religious Orders vs. College Graduates in the Combined Political-Legal and Economic Orders

TENDENCY TO REGARD THE DISORDERS AS SERIOUS	COLLEGE GRADUATES	
	EDUCATIONAL AND RELIGIOUS ORDERS	POLITICAL-LEGAL AND ECONOMIC ORDERS
	%	%
High	75	50
Low	25	50
Total %	100	100
Total Respondents	(36)	(24)

Note: A one-tailed t-test of the difference between proportions indicates that the probability is less than .05 that this difference could have occurred by chance.

⁹ Chi-square test indicates that the probability is less than .01 that this difference could have occurred by chance.

Table 5 indicates that strong differences remain between the combined educational and religious leaders, both shown in Table 2 to have majorities with strong tendencies to regard the disorders as serious, and the combined political-legal and economic leaders who, in contrast, were shown to have minorities in this category. It would seem that differences in educational level may contribute to, but do not account for, differences in the orientations of the leaders from the various orders of activity.

DISCUSSION

What are the implications of these results for community programs in the prevention and treatment of mental disorder? If the leader group as a whole is compared to a random sample of United States adults, we can find grounds for optimism. The leaders we have studied are much more likely to recognize mental illness in the cases than were the respondents in Shirley Star's study of a national sample over 10 years ago. For each of the 6 cases, 25% to 38% more of the leaders than of the national sample saw something wrong and judged it mental illness.

As has been shown, however, there are large differences among leaders from different orders of activity. The greatest contrast is between the educational leaders and the economic leaders. Large majorities of the educational leaders registered high or intermediate in tendency to see mental illness in the 6 cases, and high in tendencies to regard the disorders as serious and to advocate help from the mental health professions. In contrast, large majorities of the economic leaders showed low tendencies on each of these 3 measures. The differences between these 2 groups are consistent with what was predicted.

The political-legal and religious leaders, however, are the reverse of what was expected. Except on tendency to regard the cases as serious, the political-legal leaders are more like the educational than like the economic leaders. It seems possible that their relatively high tendencies to judge the cases mentally ill and to recommend help from the mental health professions are consistent with a political role requirement, that they be knowledgeable about service

opportunities for their constituents. Their relatively low tendencies to regard the disorders as serious, on the other hand, may be related to the fact that many are lawyers. Perhaps a legal view de-emphasizes the seriousness of deviance which appears harmful first and foremost to the individual rather than to others with whom he stands in social relationship.

In some ways, the orientation of the religious leaders is most striking of all. Like the educational leaders, and in contrast to the economic leaders, the majority of the religious leaders show high tendencies to regard the disorders as serious. Unlike the educational leaders, and like the economic leaders, they are characterized by low tendencies to see mental illness in the cases and to recommend help from the mental health professions. This is particularly interesting in view of a finding recently reported by Gurin, Veroff, and Feld of Michigan's Survey Research Center(15); namely, that those Americans who report having sought professional help for their personal problems are more likely to have turned to clergymen than to any other professional group, including psychiatrists or, for that matter, the mental health professions combined. If the orientation of the educational leaders toward problems of mental disorder can be described as allied to that of psychiatry, and the orientation of the economic leaders as relatively oblivious to a psychiatric frame of reference, then the orientation of the religious leaders might best be portrayed as competitive with that of psychiatry.

Earlier, we mentioned that the 7 Puerto Rican heads of social recreational hometown clubs were being omitted from the statistical analysis. On an impressionistic basis, they seem most nearly to resemble the economic leaders on the 3 measures. As these individuals constitute a sizable portion of the Spanish speaking leaders, the results may indicate a serious problem of either education or of creating confidence in mental health services among these most recent arrivals to the city.

CONCLUSIONS

It is necessary to sound a note of caution

about these results. They are obtained from interviews with leaders in only one urban area. Viewed as a case study, our findings provide knowledge of the leaders in this area. Viewed as evidence for general contrasts among leaders in different spheres of activity, our work requires replication in other settings. At the very least, however, the differences we have described should provide hypotheses for further research.

Our results suggest that orientation towards problems of mental disorder does vary with the individual's order of leadership activity. The differences cannot be accounted for by such factors as educational level, but appear traceable, in large part to the norms governing activities in these orders and serving as major bases for appraising deviant behavior.

That these frames of reference dictate orientations varying greatly in the degree to which they are compatible with psychiatric views may well have strong implications for community programs. Leaders are important both as agents of existing social norms and as potential innovators. Their appraisals of problems of mental disorder are thus factors to be reckoned with by agencies planning and coordinating community services for prevention, treatment, and rehabilitation. The leaders' orientations also have implications for the content, methods, and direction of mental health education aimed at more effective communication between the mental health professions and the community. Certain of our findings are especially relevant to programs in both service and mental health education. The political-legal leaders, with strong reputations for influence in the community, showed high tendencies to recognize mental illness in case descriptions of mental disorder, and to advocate help from the mental health professions. Yet it is the educational leaders, low in reputation for influence, who have the orientation most congruent with a psychiatric frame of reference; least congruent with psychiatric views are the orientations of the economic and religious leaders. The former are high in reputation for influence, and the latter are those most likely to be called upon to deal with problems of mental disorder by virtue of their leadership positions.

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AN URBAN POPULATION'S OPINION AND KNOWLEDGE ABOUT MENTAL ILLNESS¹

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European experience(1, 2) and researches in the United States(3) have indicated the desirability of a broader trial of emergency and home care services for psychiatric patients. A plan to adapt existing experience for use in the City of Baltimore has been under development for approximately 3 years.

Since the program was to operate in the community and ultimately be dependent for its success or failure on community acceptance, it appeared desirable to gain systematic information concerning how the public at large felt about the mentally ill and the mental illnesses. This decision to explore public information and attitudes was reinforced by the fact that a number of studies had shown that public feeling about the mentally ill was, in general, characterized by fear, anxiety, stigmatization, rejection and misinformation(4, 5, 6, 7). Thus, for example, Clausen writes, "... ignorance and fear of mental illness are widespread"(8). Star, in summarizing her pioneering study of a national sample, reports as follows:

... mental illness is a very threatening and fearful thing and not an idea to be entertained lightly about anyone. Emotionally it represents to people loss of what they consider to be the distinctively human qualities of rationality and free will, and there is a kind of horror of dehumanization. As both our data and other studies make clear, mental illness is something that people want to keep as far from themselves as possible(9).

The Cummings(8), working on a much smaller scale than Star, elaborated a theory

of social response to the mentally ill as comprising a sequence of "denial, isolation and rejection."

In general this picture of the social response to mental illness as essentially rejective and punitive has become widely accepted. The final report of the Joint Commission on Mental Illness and Health describes in some detail what it terms "society's many sided pattern of rejection of the mentally ill" and the "pervasive defeatism that stands in the way of effective treatment." The report points out that "Several studies of public attitudes have shown a major lack of recognition of mental illness as illness and a predominant tendency toward rejection of both the mental patients and those who treat them. There is a general agreement on these points"(10).

The study carried out in Baltimore in 1960 failed to support the point of view just described. Questioning a probability sample showed the population to be fairly well informed. People expressed, at least verbally, sentiments of understanding and tolerance for the mentally ill. The difference between the findings of the study reported here and those previously reported is somewhat startling and invites careful review of earlier theoretical conceptions.

Several points about the study need to be emphasized before reporting its results in detail. First, it was designed at the outset to sample opinion and belief, not actual behavior. The primary interest was to sample the general atmosphere of beliefs and feelings, in which our patients and their families would live, the sort of superficial statements a patient or a member of his family might hear in a casual conversation with a neighbor, in a barbershop, or a bar. The study was therefore of the public opinion poll type, in which a systematic sample of a population is interviewed in a standard manner by an interviewer using a standardized questionnaire and recording response as given.

Second, the study was not designed to

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probe deeply into the attitudes and beliefs expressed to the interviewers, nor to derive information on related constellations of attitudes. It was designed as an administrative tool—one part of a process of program planning. The fact that it is now called upon to do duty on a more theoretic level is a consequence of the surprising and unanticipated nature of our results rather than of original intent. Had the results been foreseen, many more questions might have been asked, but when the research was being planned, and the budget allotted, the length of the interview appeared generous in terms of the purpose the study was to fulfill.

The design of the study was relatively simple. A randomly selected sample of the population of Baltimore was to be interviewed by specially trained professional interviewers, the interviewer reading a pre-formulated questionnaire in a more or less conversational and relaxed setting. Responses were obtained for 90.2% of all selected respondents.

Two experienced statisticians collaborated in the selection of the population sample.³ The sample was selected by listing all the blocks in Baltimore, classifying them according to the number of people living in the block, and then within each classification selecting a given number of blocks by random means. All of the dwelling units on each block selected were then listed by enumerators who inspected the block. Again by random means, a number of dwelling units was selected from each block. Interviewers were then assigned these addresses. The particular individuals living at the address were ascertained by personal interview and the specific respondent selected by random means from the list of those over 18 years of age in the dwelling unit. Individuals so selected were the people who answered our questionnaire. There were, of course, additional statistical manipulations involved.

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The questionnaire was developed through intensive pretesting, one phase of which involved lengthy tape recorded interviews with selected kinds of respondents. Whenever possible the questions used were identical with those used in previous surveys of the public's attitudes about the mentally ill. Throughout the development of the questionnaire there was continuous consultation with psychiatrists working in Baltimore, and with an expert with many years of experience in the construction of questionnaires and in studying popular opinion.⁴ It should be noted that since the pretesting was not done with a systematically selected sample, results which hinted at the later findings were dismissed at the time as a statistical oddity.

Interviewing for the study was done by a commercial interviewing service on a contract basis. The interviewers averaged 5.4 years in this type of work. As an initial step in their training, all interviewers completed the questionnaire using each other as respondents. (Their answers were later compared to the answers of the individuals they interviewed and no significant bias either in the direction of their own opinions or against them were found.) The interviewers were then given an intensive 2-day training session on the use of the protocol, conducted by an experienced field supervisor.⁵ Then they did trial interviews with persons not in the sample and these interviews were evaluated to determine the interviewers' ability to use the protocol as instructed. About 20% of all interviews in the study group were verified; that is, respondents were re-interviewed by phone or personal visit. No instance of interviewer "cheating" was uncovered.

It is necessary to stress these quality controls because the results are so much at variance with previous studies that the question naturally arises as to whether there was a difference in technique which might account for the disparate results. It is the opinion of the authors that at the present time the difference in results cannot be accounted for in these terms.

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Another question that naturally comes to mind to explain the disparity of findings between this and previous studies concerns the population questioned. Were the people more sophisticated, more educated, of higher income and class status than those of the populations questioned in previous studies? This question can be answered by describing our population. The sample was poorly educated; the median number of years of education for the sample was 9.7. Forty percent of the sample was Negro, the majority of whom had migrated to Baltimore from further south. The median family income for the entire sample was \$4,730. The median age was in the low thirties. Approximately 55% of the sample owned their homes and the median value of the home was \$9,701. The median rental of those that rented was about \$64. In other words, the population that comprised our sample was not a highly educated, well-to-do group.

There is a point of similarity which should be noted between the results of the present study and those of previous studies before discussing the dissimilarities. This lies in the populations' prior experience and contact with mental hospitalization. We asked all respondents, "Have you ever known anyone who was in a hospital because of mental illness?" Sixty-three percent reported that they had known 2 such persons. When the respondents were asked whether this was a "relative, close friend, or someone you didn't know very well," 1% reported that it was themselves, 10% reported that it was a member of the immediate family, 15% reported that it was a close friend, and 26% reported that it was an acquaintance or someone of similar classification. (Note: these are percentages of all respondents, not simply of those that reported knowing someone who had been hospitalized.) These statistics are not too different from those found by Roper and Associates in their 1950 study of the City of Louisville (11) or by Star in her national study in 1950 (9).

The most striking contrast between the results of this study and those of others was in the ability of the population to identify given descriptions of behavior as indicative of mental illness. In 1950, Star, with psychiatric consultation, devised a series of

stories intended to illustrate various syndromes of mental illnesses. These stories were read to her respondents who were asked a number of questions about them, including whether or not the respondents thought the person described was mentally ill. Perhaps an example will provide an illustration of the quality of these descriptions:

Now I'd like to describe a certain kind of person and ask you a few questions about her. She is a young woman in her twenties—let's call her Betty Smith. She has never had a job, and she doesn't seem to want to look for one. She is a very quiet girl, she doesn't talk much to anyone—even her own family—and she acts as if she is afraid of people, especially young men her own age. She won't go out with anyone and whenever someone comes to visit her family, she stays in her own room until they leave. She just stays by herself and daydreams all the time and shows no interest in anything or anybody.

The other stories included the description of an alcoholic, a childhood behavior disorder, a somewhat violent paranoid schizophrenic and several others. These stories have been used many times—about 12—in various studies both here and abroad and usually with similar results; the only case recognized as mentally ill by anything like a majority of the respondents was that of the aggressive paranoid. This fact has come to play an important part in the general theory of attitudes towards the mentally ill as formulated by the Cummings (8). According to this theory there is a socially determined pattern of response on the part of the public toward mental illness. The first step in this response pattern is "denial" that given behavior is symptomatic of mental illness. In other words, the public has a much broader concept of what constitutes "normal" behavior than does the psychiatrist or mental health worker and thus will deny that the given patterns of behavior are indicative of mental illness. In the words of the Joint Commission, only "the raving maniac" or "berserk madman" will be recognized as mentally ill by the majority of the population. The empirical evidence to support this concept of people's attitudes has always been of the nature cited above.

In the present study only 3 of the 6

Star stories were included in the questionnaire: that of the simple schizophrenic, already quoted in its entirety, that of the paranoid, and of the alcoholic. After each story the respondent was asked, "Would you say this person has some kind of mental illness or not?"—the same question used by Star(9) and the Cummings(8). In all 3 cases an overwhelming majority of those interviewed identified the person described in the story as mentally ill. Since the questions used were identical with those used in 2 previous researches, the results may be compared. Table 1 presents these data.

TABLE 1
Percent Identifying Hypothetical Cases as
Mentally Ill in 3 Studies

Type of Case	National Study 1950 (Star) N-3500	Canadian Town 1955 (Cummings and Cummings) N-540	Baltimore Study 1960 (Lemkau and Crocetti) N-1736
Paranoid	75	69	91
Simple schizophrenia	34	36	78
Alcoholic	29	25	62

The Star and Cumming findings are much at variance with those of the 1960 study in Baltimore. Each of the 3 populations identified the case stories as depicting mental illness in the same order; that is, more identified the paranoid case as mentally ill than the alcoholic, but the proportion so identifying is markedly higher in the present study for each type of case than in prior reports.

For further analysis, respondents were classified into 4 groups. Group A included those who identified all 3 cases as mentally ill. Group B comprised those who so identified 2 of the cases, while those identifying but 1 case as mentally ill were in group C. Group D included all those respondents who had said that none of the case stories described mentally ill people. These groups were then analyzed by such factors as race, education, income and experience with mental illness to determine whether these factors made any difference in classifying these case stories as representing mental illness.

Fifty percent of all respondents identified

all 3 case stories as presenting mental illness. Only 4% fell into group D, identifying no cases as ill.

The analyses necessary to determine the presence or absence of association of respondents' tendency to identify the case stories as mentally ill with the various social factors already outlined is extensive and difficult to report briefly. They will be presented in a later monograph. Suffice it to say that age, race, marital status and urban or rural birth were not significantly correlated with the tendency to make the identification. Educational level attained and family income did make a difference in this tendency; the more educated or the higher the income, the greater the likelihood that the case stories would be considered as presenting mental illness.

This latter trend is consistent with the results of most other studies.⁶ What is different about the present result is the relatively high proportion of the least educated who were able to identify all 3 cases as mentally ill. For example, among those with an elementary school education or less, 46% of the respondents were able to identify all 3 cases. This compares to 63% among those with a college education.

Our respondents were also grouped by the Hollingshead Two-Factor Index of Social Status. It will be recalled that this index, based on education and occupation, groups populations into 5 categories ranging from Class I, the highest, to Class V, the lowest. The Baltimore sample included no Class I respondents and such a small number of Class II respondents as to preclude statistical analysis. Classes I, II, and III were therefore grouped together and compared to Classes IV and V. In Class V—educationally and occupationally the bottom of the social status scale—49% of the respondents identified all 3 cases as mentally ill. In the combined Classes I, II, and III, 63% of the respondents identified all 3 cases as mentally ill. Although there is a statistically significant difference between the 2 groups, the significant fact is the large number of poorly educated, relatively unskilled persons who were able to identify specific pat-

⁶ An exception to the general finding cited above should be noted, namely Freeman, H. E., and Kasibaum, G. G.: *Ment. Hyg.*, 44 : 43, 1960.

terns of behavior as indicative of mental illness. Apropos of the remark noted earlier that only the "raving maniac" (or, in other words, the violent paranoid of this and other studies) is seen as mentally ill, only 5% of this Class V group restricted their identification of mental illness to this case.

The Class V group was also analyzed by race. No significant differences were found between the 2 groups, white and Negro, in tendency to identify the case stories as presenting mental illness.

A further analysis was made of the respondents with less than 5 years of formal education; some of this group were illiterate for all practical purposes. Nevertheless, 50% of this group identified all 3 cases as mentally ill.

A word must be said about the failure to find any significant difference in the various age groups in ability to identify mental illness from the stories. This is again at variance with most other studies reported. Previous studies uniformly show that the younger and better educated are more sophisticated. The present study was confined to the City of Baltimore, a city whose population in the past decade has undergone massive and selective migration to the suburbs, and whose population has been replenished mainly from rural areas. It appears probable that the older population that did remain within the city is somewhat better educated than the younger in-migrants.

In summary, then, this study did not find evidence to support concept that there is a tendency on the part of the public to "deny" mental illness.

The study also contains some evidence on what the Joint Commission describes as "pervasive defeatism" concerning the mentally ill (10).

When an individual had identified a given case as mentally ill the interviewer asked, among other things, "Do you think this illness can be cured or not?" In the case of the withdrawn, schizophrenic girl, 72% felt that she could be cured. In the case of the paranoid, 79% felt that he could be cured. In the case of the alcoholic, only 56% felt that he could be cured. The interpretation of these answers is not pressed since so much depends on the public's definition of

the term "cured." It does *seem*, on the basis of the material in the pre-tests and the marginal notes occasionally recorded by interviewers, that to the respondents, "cured" meant "restored to social function," or that the person was able to manage his own affairs without supervision. Irrespective of the correctness or incorrectness of this interpretation, however, it would still be difficult to interpret these results as indicating "pessimism" or "defeatism" in the face of identified mental illness.

It has also been postulated that there is a tendency on the part of the general public, once an individual has been identified as mentally ill, to "isolate" him and then to "reject" him. This, essentially, was the conclusion reached by the Cummings (8). The present study does not substantiate this hypothesis—50% of this sample said that they "could imagine themselves falling in love with someone who had been mentally ill"; 50% said they "would be willing to room with someone who had been a patient in a mental hospital"; 81% said they "wouldn't hesitate to work with someone who had been mentally ill"; 62% disagreed with the statement "almost all persons who have a mental illness are dangerous"; 85% agreed with the statement, "people who have some kinds of mental illness can be taken care of at home"; three-fifths agreed with the statement that "people who have been in a state mental hospital are no more likely to commit crimes than people who have never been in a state mental hospital."

The major point of the study was to explore the readiness of a population to accept a program to provide home care for psychiatric patients. In view of the findings of previous studies that there was a tendency to "isolate and reject" the mentally ill, it was felt important to explore this point in some detail. Three projective-type stories describing 3 different illnesses in hypothetical family situations were read to the respondents. They were then asked to say whether the protagonists in the story should accept proffered medical services in the home or whether the ill family member should be sent to the hospital, the cost to be the same in each instance. The stories described a withdrawn girl, a depressed male breadwinner, and a mild senile psy-

chotic. The following story, read by the interviewer, will illustrate the quality of the questions :

Now here's another family story . . . about people in Baltimore. Let's call them the Walkers. Mr. and Mrs. Walker have been married for some years and have 3 children in school. Usually, Mr. Walker has seemed cheerful and he and his wife have gotten along pretty well. But lately Mr. Walker has become very touchy. He gets irritated very easily and can't sleep nights. He worries about little things and cries a lot, blaming himself for all sorts of things that have gone wrong in the past. Sometimes he keeps Mrs. Walker awake all night long, walking up and down and wringing his hands, talking to her about all the bad things he thinks he has done.

Mrs. Walker got him to see a doctor and the doctor told her that he could arrange *either* for Mr. Walker to go to a state mental hospital where a special doctor and nurse would try to make him better in a few months, *or* she could keep Mr. Walker at home and a special doctor and nurse would come to see him from time to time and try and make him better in a few months. Either way the cost would be about the same. What do you think Mrs. Walker should do? Should she have Mr. Walker sent to the mental hospital or should she keep him at home?

The respondents' replies are summarized in Table 2.

TABLE 2
Percent Favoring Home Care
in 3 Hypothetical Cases

Type of Case	Percent
Schizophrenic girl	56
Mild senile psychotic	50
Depressed middle-aged breadwinner	46

It would appear that, even when given this indirect method of expressing rejection of the professionally identified mentally ill person—a large proportion failed to do so.

The interviewers then asked the respondents "what makes you say that?" and proceeded to probe their answers in a non-directive manner, recording the answers verbatim. These verbatim answers were analyzed in many different ways, but in 1 analysis especial attention was given

to any reasons offered that might indicate fear of violence, suicide or even accidental self-injury by the patient. It was hypothesized that hostility might reasonably be expressed in this manner. In the case of the young girl and middle-aged man, only about 10% of respondents advocating hospitalization gave answers that could be classified under this rubric. In the case of the elderly woman, 25% did. Upon inspection, however, almost all interpreted as potentially hostile turned out to be fear of accidental self-injury on the part of the patient during her night wanderings. Most pronounced was the fear that she might fall down and in the words of one respondent "break herself" and that the rest of the family would not find her until the morning. As one might expect, one of the most frequent reasons given for the hospitalization of this patient was the feeling on the part of many respondents that 24-hour surveillance was necessary to protect the patient and that no ordinary family could do this. As a respondent said, "this old woman could break up the entire family." The housewife has a family of her own and she couldn't take care of her own family if she had to be with her mother (the senile patient in the story) night and day, "because the family has to sleep and the father has to go to work. She can't have family life that way."

In the other 2 cases the most common reasons for advocating hospitalization fall under the heading that a change of environment would be best for both family and patient. This was frequently coupled with the feeling that the families concerned had something to do with the patient's illness and that therefore the patient might benefit by being away from them.

All responses, whether of those who advocated hospitalization or those who favored retaining the patient at home, were studied with view to finding statements or remarks indicative of the pattern of isolation and rejection of the mentally ill. At the most, only 15% of the responses could be so categorized. The overwhelming majority of responses were patient or family centered, humane in expression, and rational in substance.

In summary, the results of this study vary

on a wide range of points from many previous studies using identical or similar questions and comparable methodology.

Accounting for this variation raises several interesting theoretic possibilities. The first and least exciting of these is that there is something special and different about the Baltimore population that renders comparability with other studies impossible. This is a question which can only be settled by extensive and independent replication in other communities. This is something we are presently attempting to arrange.

A more intriguing possibility is that popular attitudes towards mental illness and the mentally ill are in fact changing, and that the present study, being among the most recent, reflects this change. In this connection it should be noted that Woodward (12) in the evaluation of his 1950 study of Louisville, concluded that popular attitudes towards the mentally ill were changing. This raises certain subordinate considerations. For example, what is the role of mental hygiene educational activities in this alleged change? It becomes a possibility that these efforts are more effective than has been thought.

If a change in public opinion about the mentally ill has taken place, then an important theoretical implication must be considered, namely a possible change in the perceptual context in which the public views the mental illnesses. Since mental illness so frequently manifests itself as behavior deviating from socio-cultural norms, there has been a tendency to explain popular reaction to the mentally ill with the same concepts used to explain social reaction to any behavior disruptive of community norms. In these terms the mentally ill person is perceived as a "transgressor" rather than as a "sick person." The study reported herein indicates that most of the population studied perceive at least *some* mental illnesses as primarily illness, rather than simply as deviant behavior. If this is true, it means that the public will look more frequently to its physicians for cues on how to react to the mentally ill, just as it does in many other areas of illness.

It may be that the public is presenting evidence of an emerging ability to distinguish between social deviation, behavior

determined by socio-cultural factors, and mental illness; to the extent that this be true, the sociology of deviant behavior would no longer apply to the universe of mental illness as it has seemed to in the past. To the extent that the distinction by the public is possible (and as an emerging characteristic it would be expected to vary widely in different populations and at different times) public reaction to the mentally ill could become more responsive to leadership of the medical profession in regard to the way its psychiatric institutions are used, and the type of treatments used in them. Conversely, to the extent that the perception of mental illness as illness is actually made by the public, explanations of public apathy and rejection may as logically be sought in the actual practices of psychiatric institutions as in more abstract socio-cultural norms. It does seem reasonable that if the public identifies the mentally ill person as "sick," the key to further attitude change is logically in the hands of those to whom society assigns the responsibility for the care of the ill—its physicians and medical institutions.

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DISCUSSION

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—The cooperation between the School of Public Health, a non-governmental educational institution, and the City of Baltimore Department of Health, a governmental unit, is gratifying. It is through mutual assistance and sharing of the load, that any possibility of a successful meeting of the mental health problem can in any suitable way be achieved. This sharing of responsibility between tax-supported and non-tax resources points to the necessity throughout the country, of expanding the non-governmental private and voluntary agencies' share of responsibility for the overall job to be done, thus reversing the tendency in other parts of medicine to move in the direction of tax supported services.

The move toward a broader trial of emergency and home care services again coincides with the acknowledged problems associated with traditional institutional programs available only at a distance. The modern position toward psychiatry may be summarized in the statement according to McNeel of Ontario : 1. That adequate therapy should be available as early as possible ; 2. As continuously as possible ; 3. With as little dislocation as possible ; and 4. With as much social restoration as possible. This emphasis on home visitation and management of emergency situations *in situ* is a move in the direction of handling psychiatric conditions just as other medical conditions are handled. Again, in this way, the handling of the patient in the presence of the precipitating situation offers much.

So a logical step toward adequate meeting of the need in terms of timing and location is properly followed in planning with exploring the terrain. How then shall the soil be prepared for planting of the seed of this new approach, by all previous beliefs calculated to fly in the

face of traditional attitudes and expectations ?

There is no doubt of the wisdom of using the scientific method, that is : collecting data, analyzing them, forecasting the trends, making, testing, and operating a plan step by step ; then testing the experience and moving on in logical sequences.

The surprising thing is that, with the well documented studies of public attitudes and information levels, any new study was deemed necessary, worth while, or likely to produce new data, particularly since the same tools were again being used. Rather it would have been logical to plan the new treatment project with due regard to the expected ignorance, fears, and antipathy with, or perhaps to, the behavior associated with mental disorder. Many clinicians, I believe, would have moved right ahead. However, to Dr. Lemkau's credit, an orderly approach was made and surprising results were obtained. This carefully chosen random sample produced responses which showed a surprisingly high degree of understanding of bizarre behavior, a high level of information concerning the meaning of symptoms, and a willingness to accept and tolerate behavior of persons who had been stigmatized by having been at a mental hospital, or obviously acting strangely.

In spite of the contrary reports of Star, Cumming and others, and the summation of the final report of the Joint Commission, "the study failed to support the point of view of these authorities. Questioning a probability sample showed the population to be fairly well informed. People expressed, at least verbally, sentiments of understanding and tolerance of the mentally ill. The difference between the findings of the study reported here, and those previously reported, is somewhat startling and invites careful review of earlier theoretical conceptions."

As the authors point out, "accounting for this variation raises several theoretical possibilities" :

1. "... there is something special and different about this Baltimore population . . ." Certainly other population groups must be studied in comparison, but I would venture to risk a challenge of naivete by suggesting that this population is probably different in major ways than those studied by Star and the Cummings. This sample is reported to be poorly educated, of low economic and social status. It is interesting that the Baltimore sample shows "the relatively high proportion of the least educated who were able to identify all cases correctly as mentally ill."

Parenthetically, I wonder if, in this area, we

could draw the conclusion that education may be a negative factor and teach the wrong things. Provocatively would I dare to say that highly educated teachers and parents may pass on preconceptions and prejudices which are harmful to the growing child. And that high economic status brings association with groups that are more likely, as Brock Chisholm is saying these days, to follow the rigid pattern of their ancestors.

I note that 40% were Negroes recently come from the deep south. I would suggest that such people who are untouched by much education or cash sophistication, may be more intuitive and sensitive to subtly communicated beliefs and expectations of the interviewers. It is evident that the investigating groups were entering the investigation with a firm hypothesis that their data would confirm the previous studies. This is confirmed by the fact that Star's stories were used and all those that were used concerned mentally ill people, so that the question "is this person mentally ill or not?" would most likely draw, from a docile person wanting to please, the likelihood of replies in the affirmative, and the less the respondent is contaminated with education and sophistication, the more likely he is to want to please and reply in the affirmative.

That the hypothesis is present is indicated in the surprise that the results did not bear out the findings of former investigators. And particularly in the statement that, "Had the result been foreseen that the study offered such deep implications many more questions might have been asked, but when the research was being planned and the budget allocated the length of the interview appeared generous in terms of the purpose the study was to fulfill."

Very significant is the statement relating to the pretesting phase of preparation and design as follows: "It should be noted that since the pretesting was not done with a systematically selected sample, results which hinted at the later findings were dismissed at the time as a statistical oddity." It is a curious coincidence that this report follows the statement by Dr. von Foerster that even in the field of physical measurement, people tend to obtain findings close to their expectations and throw out contrary data as artifacts.

It is to the credit of these authors that they pursued these matters further in spite of their differing hypotheses and results differing from previous studies.

With respect to the population sampled, one should also be aware of the fact that at least certain elements of the Baltimore population might well be more knowledgeable because of the atmosphere generated by famous institutions in that City.

2. One must consider the possibility that there has been in fact, an increase in knowledge brought about by direct and indirect mental health education and the atmosphere of understanding and tolerance has improved in an unrecognized degree.

3. Finally, one should be aware of certain issues when one compares the present study with those of Star and the Cummings. The Star study was begun in 1950 and her data may well be outdated. The study by the Cummings was complicated by the fact that, as they report, their study aroused hostile feelings in the community, and, therefore, may have produced responses colored by these feelings. Thus, they may have operated in a direction directly opposite to that of the Baltimore population.

SUMMARY

1. I believe the authors have obtained from their sample a response which is very likely more in keeping with the true level of knowledge, understanding, and tolerance, in spite of the fact that their data proved contrary to what was apparently their original hypotheses.

2. The population sample is, in my opinion, different from those studied elsewhere and this may account in part for the responses.

3. For at least a significant segment of the study population, it is unlikely that they have responded to mental health education as carried out in the past few years and, therefore, that this does not indicate that such educational programs have brought about the findings of this study.

4. I should like to congratulate the authors for carrying out a well planned study which will likely lead the way to a more accurate appreciation of the opinion and knowledge of population groups with respect to the mental illnesses.

THE STUN¹

EUGEN KAHN²

The stun is an experience, or more exactly, the content of an experience, which emerges or is produced suddenly. The experience of being stunned is the experiential response to the stun.

There are obviously relationships, even overlappings, with the surprise, the shock, the fright (or scare). However, none of them is identical with the stun.

Surprises are in general easily managed by the experiencing person in his situation. He may be displeased or—fortunately more often—delighted, but he has no qualms to express himself. He may say “I am surprised,” he may thank or curse or “take action.” Although there is suddenness and unexpectedness in the stun, it definitely differs from the surprise. Surprises are neither stuns nor stunning.

The shock is occurring suddenly, too; there may be an element of the surprise in the shock. Indeed, the shock may be a close relative of the stun. Yet the term has been so badly abused in psychology, psychopathology, psychiatry,³ *et al.*, and it is used with a rather different meaning in medicine and surgery. I prefer to leave the word shock alone in this context although I may mention that the phrase “I am shocked” is used quite often and is thus mostly turned into a platitude.

It is, as far as I know, a rarity to hear anyone—healthy or sick—say “I am stunned.” But there are many stunned ones—stunnees—agape and silent. It appears to me that the silence of the stunnee is a characteristic of “stunned behavior”; you cannot talk with your mouth open! Stunned silence⁴ prevails until the stun has been somehow experientially assimilated, integrated, abreacted. Then experiencing, so to say, falls

back into its usual tracks unless there is some, particularly some organic, pathology.

Fright or scare may occur suddenly; there is some relationship to stun. However, as a rule, the stun does not contain the experiential element of threat, of being endangered. The stun has no primary relationship to fear either; it stands to reason, though, that fearful and timid people are prone to experience stuns with a definite hue of fear.⁵

Not a few stuns—but by no means all—produce unmistakable frustration. In such instances some aggressive move may be made after “the dead point of the stun” has been passed. While experiencing the stun, nobody “attacks,” but everybody keeps silent and paradoxically, keeps his shut mouth open (agape).

After talking about the stun and the stunnee, I have to introduce the stunner. A stun can only come to life in the experiencing person in his situation, in the stunnee, if something or somebody has produced it, that is the stunner. The stunner is in most instances another human being who may provoke the stun intentionally or unintentionally. There are, *e.g.*, people without that particular sensitivity called tact who may stun others intentionally or unintentionally. In the first instance, the stunner may want to get another person or a group of persons into the inactivity of the stunned silence. Rabble rousers are experts of this kind of procedure; they impose themselves upon the people while they are wriggling out of their stunned silence.

It may occur that some special objects, a book, a work of art, a machine, an apparatus or what not gets one stunned. Although there is no human stunner in the foreground, there is always one to be found in the background.

The stunner may use the stun as a harmless prank or with a harmful purpose; an example has already been given with the rabble rouser. The stunner may be a very

¹ After a lecture read in the V.A.H., Houston, Oct. 20, 1961.

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³ In psychiatry the very reputation of the word “shock” has been jeopardized in shock-therapy.

⁴ In fact, the silence is not stunned, but the stunned people are silent!

⁵ The stun cannot be settled by the fashionable and vague coverall notion of anxiety.

sensitive soul in his own right who under countless circumstances may say or do things stunning other people. Such stunners may learn to use the stun as a trick for purposes of self-defense. On the other hand there is the aggressive stunner who in play or work, in peace or war, knows how to stun his counter player, adversary or enemy. The aggressive stunner, not unrelated to the rabble-rouser, is utilizing the stunnedness of his *vis-à-vis* to overwhelm him or in another way to dispose of him. It is obvious that there are various kinds of stunners.

This is also true of the stunnees. There are, generally speaking, people who are easily stunned—alone and in a group—and people who would not even understand what it may be to “be stunned” though practicing stunning on other people. One might think that there is something like a personal stunnability. Even if this were the case, the momentary condition of the stunnee is a weighty factor—he may be fresh or tired, young or old, healthy or sick, female or male.

A relatively rare phenomenon is the being stunned by himself of the self-stunner. It may be provoked by harmless and by harmful experiences and actions. A person in his situation may be stunned while he is working or idling by the emptiness or fullness of his performance—here a door may open to religious experiences. A murderer after committing his bloody deed may be self-stunned; this, incidentally, may lead to his self-surrender or to his discovery. In the murderer the aggression may have been fully experienced—lived out, “acted out”; its sequelae are stunning the perpetrator who is stunner and stunnee in one person.

The following story⁶ contains a nice example of a stun and of a group of stunned people.⁷

An American tourist on a crowded British railway train noticed a large, tweedy woman whose large, tweedy dog was occupying a seat. Politely he asked if the woman would mind moving the dog to the floor. “Leave the dog alone!” the woman snapped.

The American left the compartment, walked

the length of the train, but failed to find a seat, so he returned and pleaded with the dog’s owner again. “I told you to leave the dog alone!” she said. The American reached over, opened the window, tossed the dog out and sat down.

There was a stunned silence, then an elderly Englishman across the aisle looked up over his *TIMES*. “You Americans amuse me very much,” he said. “In the first place, you eat with your fork in the wrong hand. You drive your cars on the wrong side of the road—and now, by Jove, I believe you’ve thrown the wrong bitch out of the window!”

It is evident that the American was highly frustrated. His frustration makes his unmistakably aggressive action somewhat understandable. Without any plan or purpose he acted as a stunner—the tossing out of the dog being the stun. It is conceivable that the owner of the dog who presumably was the primary aggressive actor experienced her frustration only after getting over the stun. We cannot say anything about the fellow-passengers except the Englishman who after “recovering” let go against the American as well as against the owner of the dog—killing two birds with one shot, as it were. But the Englishman, too, participated in the stunned silence before he spoke up. I dare suggest that with his remarks he “dissolved” the stunned silence.⁸

If I should now relate a dirty story, several among the readers—I dare suppose—would be stunned. Recovering from this experience they might wonder (with more or less rationalization or more or less emotionally, according to their “personalities”): how can he relate such a story here? Does he have no manners or has he forgotten them? Is he or did he become so insensitive as regards other people’s feeling, so tactless? Is he perhaps intoxicated? Or is he suffering of an organic brain disease? Or is he perhaps just a senile goner?

All these questions—built up on a dirty story which I did not and which I am not going to relate—are but the rhetorical formulations, the implications of possibilities in respect to certain stunners as well as to certain stunnees. “Stunnability,” the

⁶ *Reader’s Digest*, October 1961, contributed by Philip C. Humphrey.

⁷ We have mentioned above cases of stunned groups.

⁸ It does not bother us here that now the dog owner was likely to be “boiling mad.”

readiness of being stunned, is, as already indicated, an individual property. Although people in general appear to be more easily stunned with advancing age, individual differences remain aworking. It appears, furthermore as though women are more easily stunned than men, while the stunners recruit themselves prevailingly from the males. There is no argument, though, as regards the occurrence of female stunners⁹ and male stunnees. There are subtle differences between the stuns more appealing to men or women.

The very "stunned silence," as a rule accompanied by complete or near complete immobility (agape!), makes one think of a relationship of the stun to certain experiences of rigidity and immobility which are rare in the healthy young and grown-up, which are met with increasing frequency in aging people and which finally are observed in individuals ailing of certain mental disorders and of mental deterioration.

There are social-cultural differences: there are indeed cultures in which the young are taught not to be stunned; they learn never to show any emotional response to whatever may befall them. (Amer. Indian, poker face, *et al.*).

The healthy quite generally go fast through stuns. The unstable and the eccentric have all manner of difficulties—they may, as I mentioned, learn to use actual or alleged experiences of being stunned as one of many defensive or aggressive tricks in their arsenal of tricks.

In the schizophrenic stuns pay a definite role. Certain schizophrenics are again and again stunned into silence, inactivity and immobility when they undergo hallucinatory and/or delusory experiences.¹⁰ In the chronic schizophrenic these experiences seem to become more and more "independent" or original stuns; the experiences—hallucinatory, delusory, *etc.*—persist, but the impress of stun is, as it were, washed out while the tendencies toward silence, inactivity and immobility have grown into

parts of the day-to-day behavior of the patients. That there was an initiation of such symptoms due to or connected with experiences of being stunned, is probably in most cases forgotten by the patient and can no longer be elicited by the interrogator. There is some "self-stunning" in a few profoundly depressive patients who—from time to time—are flabbergasted and muted by the thought of the misdeeds they feel guilty of.

The picture total changes with advancing age when long past experiences—and "learnings"—can still be revived while it becomes harder and harder to learn and to assimilate or integrate new ones. This can be seen in the ease with which certain old people find their way in the environment they are used to and how forlorn they may be when brought into a new one—a new apartment, another house, a doctor's office, a hospital, *etc.* Subtle and massive "stuns" are experienced by them.

With increasing age the individual gets slower in his responses; in particular it becomes more difficult for him promptly to change his trend of thought quickly and to concentrate on something else.¹¹ In such instances interruptions from the outside—a sudden question or suggestion—can work as a stun of intensive impact upon the senile individual. In fact, the inability spontaneously to change a trend of thought and a chain of behavior may work as "self-stunning" upon the individual. Mild disturbances along this line can easily be observed in old people who in their usual habitat function well enough, but respond even to relatively light stuns openmouthed, agape. They may in simple situations recover fast when they are allowed to continue the trend that was interrupted by the stun.

These disturbances become understandably more incisive in massive organic brain disease, like presenile, senil and arteriosclerotic processes. They are also being observed in many instances of clouded consciousness, in toxic, infectious, and post-traumatic clouding of consciousness.

One has always to recollect that the person in his situation has to find his temporal-

⁹ One cannot but think of the so-called "stunning woman" and/or the "stunning beauty."

¹⁰ One may say that other schizophrenics undergo hallucinatory and/or delusory experiences after being stunned into silence, inactivity and immobility.

¹¹ Ernst Gruenthal has described the characteristic "Einstellstörung" inability of spontaneous focusing and changing focus.

spatial orientation. This permits him "under normal circumstances" to experience meaningfully and in some continuity. Generally speaking, it appears to be some special kind of interruption of the continuity of meaningful experiencing which is brought about by the stun. Under pathological circumstances stuns may be experienced with catastrophic intensity.¹²

Such occurrences may put considerable stress upon the physician. We must mention that the doctor may be the stunner in the doctor-patient relationship. A judicious

application of a stun¹³ in interrogation or psychotherapy can be once in a while quite helpful. However, the patient need not always be the stunnee, he may be the stunner, too, and embarrass the inexperienced physician very much. To be prepared for such experiences ought to be one of the tools in the doctor's box. If he has learned to be alert in this respect, he may turn some patients' somersaults to therapeutic use.

SUMMARY

The stun is defined as the content of an experience which emerges or is produced suddenly. The stunnee who suffers the stun, and the stunner who brings it about, are discussed with reference to normal and to pathological conditions. Physician and patient may be stunners as well as stunnies.

¹² We refer to the observations in senile and organically sick patients already made. In them the continuity is often distorted into rigid perseveration of which any interruption is responded to with pitiful helplessness.

In another connection I have discussed the "gap" that initiates cosmic delusions in certain schizophrenic patients.

¹³ Too much of it will always make one suspicious of quackery.

TRAINING IN SOCIAL PSYCHIATRY AT WARD LEVEL¹

MAXWELL JONES, M.D.²

With the increasing interest in the social environment of the patient, the role of the ward psychiatrist becomes more complex. It is not enough to be a competent diagnostician and individual therapist; he must now learn how to recognize and modify the social organization and culture of his ward, as well as the complexities of group treatment. Ideally, this would entail exposure to the teaching of experienced psychiatrists and social scientists. It is rare for a resident to get social science teaching outside a university hospital or clinic. However, the growing interest in the social dimension in mental hospital psychiatry is manifested by relevant literature, to which the psychiatrist in training is increasingly referring (1, 2, 3). Nevertheless, it seems to me that whatever training skills are available, the most effective way of teaching this aspect of psychiatry is in the ward situation.

This can best be accomplished by a daily meeting of all personnel on the ward, both patients and staff. If this is immediately followed by a "post mortem" of about the same duration involving all staff members, then there is an opportunity to examine the response of the various personnel with different skills, expectations, prejudices, *etc.* In this setting, it is possible to discuss the perceptions and feelings of the staff retrospectively in relation to the ward meeting and also to examine their interaction during the staff meeting. I do not want to discuss here the phenomena which one associates with the ward meeting as this will be discussed elsewhere(4), but would like to consider the "post mortem" staff session.

Let us assume that all personnel who come in contact with the patient in a therapeutic role will be present at both meetings. In the "post mortem," they will, in varying degrees, be able to express both their analyses of certain aspects of the meeting

and their subjective feelings. If we take a frequently recurring problem, such as authority, the aides may perceive this in terms of their own desire to conform to a strict authority system. The cleanliness of the ward, the observation of smoking rules, the avoidance of incidents, *etc.*, are necessary if they are to avoid undue anxiety. In this context, they will tend to express, directly or indirectly, views which support the maintenance of patient discipline. At the other extreme, the doctors, if they have had considerable experience in examining the social interaction on a ward, may perceive untidiness or dirt on the ward as symptoms of disorganization among the patients and want to examine this as a form of communication. To do this at all skillfully, the anxieties of the aides will have to be given due consideration, and the realities of their position faced frankly. In discussion, it may emerge that the aides are uncomfortable at ward meetings, which they feel take up far too much of their time, and are responsible in part for the untidiness of the ward. They may point out that continued disapproval from their higher authorities may result in possible loss of employment. This fear may be re-enforced by the fact that their supervisors are themselves not trained in social psychiatry and may apply a value system to their area of responsibility which is at variance with the developing culture on the ward. It may be that a long-term plan involving training seminars with the supervisors will be a necessary adjunct to the effective functioning of the ward if the total ward situation is to be rendered therapeutic. At the same time, it may appear that the anxiety of the aides stems in part from their personality difficulties (relatively inadequate education and lack of sophistication), which hampers them in their role relationship with more highly trained personnel. They may deal with this by denial and rationalization, blaming the frequency of ward meetings and lack of discipline, for the unsatisfactory state of affairs. A situation of this kind is

¹ Read at the 117th annual meeting of The American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

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not infrequent and the mere gain in insight on the part of an aide may not in itself be enough. It takes a long period of education and support, if not of therapy, to tide them over the transition from their previous image of a structured, simplified role to that of a therapeutic one.

What has been said about the role of the aide in a ward problem bearing on authority would apply in different ways to all the roles and role relationships on the ward.

The charge nurse may have particular difficulties in that, by contrast with the aide, she has a relatively higher status and a professional image which implies knowledge which frequently she does not possess. Most R.N.s have been trained in a fairly strict, authoritarian culture and have little experience in the examination of roles and role relationships, the sharing of responsibility, and the concept of group decisions or group treatment. She may resent the loss of her relatively exclusive relationship with the doctor and the staff's examination of her handling of patients' problems. In the "post mortem," it may become clear that when she feels threatened by patients, she resorts to devices such as recommending shock treatment, transferring the patient to another ward, or "regressing" to an authoritarian disciplinary role. Like the aide, she, too, has the problem of a nursing authority structure. She is expected to satisfy the needs of personnel who have no direct contact with the ward and who view things from their own particular nursing perspective. Unless nursing supervisors and the higher echelons of nursing can themselves become identified with ward community treatment programs, then confusion of roles is almost inevitable. The ward views the problems as material for treatment whereas the nursing hierarchy tend to view them as administrative problems, calling for immediate action. One device frequently used by the nursing profession is to transfer a nurse to another ward if there are repeated ward problems. By doing this, of course, nothing is learned from the disturbance on the ward but, from the point of view of administration, the problem is got rid of by transfer.

I have found it possible, even in a large state hospital, to use situations of this kind

as learning experiences for all personnel concerned. The director of nursing and her senior colleagues have been extremely willing to participate in seminars involving the ward problems so that even if a nurse has been transferred it is still possible to recreate the situation in retrospect and see what alternative answers could have been found to the problem. Whether this should be done by inviting senior nursing personnel to the "post mortem" meeting or whether it calls for a separate teaching situation is still, I think, an open question, and much would depend upon the circumstances. The essential point is that the ward doctor should be involved so that he is in a position to gain experience in dealing with the different dimensions of the problem. Nurses from the Department of Education may also be involved in this kind of training experience. If they have student nurses on a ward, they tend to teach them in a situation which is removed from the actual ward interaction. If, however, the nursing education personnel themselves become involved in ward meetings and find a functional role for themselves on the ward, they are then in a position to discuss the interactional scene with their students in the "post mortem" meeting and in their own teaching seminars. In this way, their own perceptions of what went on and what they would normally teach their students can be examined by other trained personnel and nursing education puts itself in the position of having a continuous educational experience, instead of tending to become stereotyped. Moreover, the staff meeting is an ideal setting in which to work through some of the problems inherent in the role relationships between medical, nursing service and nursing education personnel. All 3 have a significant relationship with the student nurse and unless a serious attempt is made to work through this relationship, the student may find herself confused and, at times, victimized. What she wants above all is someone to turn to when she is in emotional difficulties with her patients. My feeling is that in the kind of overall training program which we are discussing, she will be able to turn to the charge nurse, to the nursing education supervisor, or to the ward personnel, including the doctor, social work-

er, psychologist, and so on, all of whom should be in a position to understand certain aspects of the problems of nurse-patient relationships on the ward. This implies a degree of role blurring which is perhaps unusual. At the same time, it implies a degree of sophistication through time of all ward personnel which inevitably follows on daily staff meetings when the problems of treatment, ward management, interpersonal relationships, including staff relationships are under constant scrutiny and discussion.

What I have said about the roles of the personnel in direct contact with the patient applies equally to the more peripheral roles, including the social worker and psychologist, whose relationships with patients, whether as social caseworkers or as therapists or group workers, should be discussed freely with the total ward staff personnel. This implies that roles are constantly being modified and that a psychologist or social worker on Ward A need not necessarily have a similar role on Ward B. In fact, it seems a pity if professional personnel become identified with their own professional sub-group rather than with the ward on which they are working. All this implies a considerable degree of skill and sophistication on the part of the ward leader who, at the present time, is usually or perhaps invariably the psychiatrist. There seems to me no adequate reason why this responsibility should continue to rest with the psychiatrist unless he has the kind of training and skill which we are discussing. This leadership role could reasonably be given to one of the other staff personnel provided, of course, that the purely medical matters were left, as they must be, to the doctor.

In order to become competent in handling the various role relationships and ward management problems, the psychiatrist is forced to attempt to examine the problems of the various personnel and see them from not only his own but from the other points of view. Whether group consensus can be seen as a satisfactory way of resolving problems, if indeed it is ever achieved, is an open question, but the attempt to examine problems in various dimensions is a rich learning experience. Obviously, it is much better if this whole procedure is supervised by a social scientist with ex-

perience on a psychiatric ward or a psychiatrist who has had considerable experience in group work and the social science field. Such training will help him to make optimal use of his staff and the social environment generally and where psychiatrists are concerned will be invaluable preparation for a possible future role as a mental hospital administrator.

It could be said that to date residency training in psychiatry has been geared more to the needs of private practice than of mental hospitals. In general, a well-trained psychiatrist should be equally competent in both private practice and mental hospital spheres. At the present time, there is a distinct difference between the 2 types of practice, although this difference should become increasingly less apparent as community psychiatry develops. Training along the lines discussed in this paper can do much to help the doctor who intends to remain in mental hospital practice to make optimal use of his environment. At the same time, it would help the psychiatrist in private practice to be sensitive to the social dimension in such ways as involving the families in treatment, making optimal use of the mental health facilities in the area, and so on. If, as seems probable, the tendency will be for more and more patients to be treated in the community rather than in the hospital, then clearly their supervision will be the concern not only of the community psychiatrist but also of social welfare, the private psychiatrist, the general practitioner, and family care, integrated in a way which has much in common with the practice of social psychiatry at ward level. For such training to be really effective, however, it will be necessary for residency training programs, both in medical schools and in state hospitals, to have both intra- and extramural psychiatric practice.³ The extramural practice of psychiatry is being stressed at one or two training centers at the present time, e.g., the Harvard School of Public Health and the department of psychiatry at the University of Southern California. Both offer fourth-year residency training in the public health field.

³ It is the latter factor which appears to have contributed much to the relatively satisfactory state of current British mental hospital practice.

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A NEGLECTED DOCUMENT—THE MEDICAL RECORD OF THE STATE PSYCHIATRIC HOSPITAL PATIENT¹

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INTRODUCTION

With the introduction of new treatment techniques and changing concepts in psychiatric treatment methods, psychiatric hospitals have made great advances. One of the results of these changes have been the increasing demands for the recording and the efficient retrieval of accurate and adequate information for clinical, administrative, educational and research purposes.

Past experiences in sampling of the medical records of the state psychiatric hospitals in Maryland have raised many questions as to whether the principles and practices of medical records are in keeping with these demands. This was emphasized in our own setting where increasing numbers of bulky records were being encountered necessitating longer investments of time for their study and at the same time yielding diminishing returns information-wise. These issues initiated an analysis of our hospital records in 1954.

The overwhelming majority of the records examined displayed frequent lacks of essential information and a weed-like growth of out-dated, irrelevant material with much reduplication. The problem was further complicated by state laws governing the retention and disposal of records in state institutions. These laws were created in an age when the patient's record was contained on one line in a ledger type book and obviously could not be applied in a workable manner to the present minimal 40 page patient's record. Another repetitive phenomenon observed was that with the

passage of time information relative to the continuing treatment experiences of long hospitalized patients became increasingly sparse. There seemed to be no allowance made for flexibility and changes in the record keeping system of the state hospital. This appeared to have a direct correlation with the lack of professionally trained personnel in the record room and was also abetted by the lack of an effective system of control over the document from the standpoint of carrying out quantitative and qualitative analyses.

In our attempts to come to grips with this problem the following steps were taken: 1. A historical study was made of the development of the medical records at the Spring Grove State Hospital, 2. A survey of our records was requested from the Consultant Unit of the Biometrics Branch of the National Institutes of Health from the standpoint of making it a more meaningful document for administrative and statistical purposes, 3. Field trips to various types of psychiatric hospitals were made and their systems of medical record reporting examined, 4. The establishment of a minimal retention schedule with a review of the state laws governing the retention and retirement of information in state psychiatric hospital medical records was carried out, 5. The initiation of a medical records project under a three year grant (OM-92) from the N.I.H. focused on developing "a method of approach in an attempt to make medical records in a state hospital a more effective document."

¹ Read at the 117th annual meeting of The American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

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I. A HISTORICAL SURVEY OF THE SPRING GROVE STATE HOSPITAL MEDICAL RECORD

Although the Spring Grove State Hospital was established in 1797 and is considered the third oldest mental hospital in the country (1) no records prior to 1872 could be found. What these records were like and what might have happened to them is unknown. From 1872 to 1875 the records

were found to consist merely of a large bound ledger entitled, "Records of Patients" which contained 18 items of information on each patient recorded in a single line across its broad pages. Although these records do not contain a history or any examination data it can be assumed that some type of workup must have been carried out since there are records in 1874 of the hospital purchasing its first microscope "to further the routine study of body fluids" (2).

From 1885 to 1911 the two most important additions to the patient's records were the questionnaire and the physical examination report. The questionnaire, completed with the assistance of the patient's physician, was glued in a bound book and apparently was the only record kept of the patient other than a master file which was started in 1895. In 1911 the individual patient folder and the formulation of a mental status examination were introduced.

In the ensuing years prior to World War I the individual folder and the master index continued to be the only type of patient record kept. The first typewriters in the hospital were introduced at the end of World War I, which was a blessing for copies had begun to appear in duplicate, triplicate, and the record started to increase in volume. Fortunately, 40 years later this problem of multicopies was resolved by another device, namely, the introduction of the photocopy machine.

The interval between World War I and World War II saw, unfortunately, the marked physical growth of the hospital which created increasing problems in communication as patients began to be moved from one building to another. No longer could a few physicians be familiar with all the patients. This led to the use of transfer notes as attempts were made to maintain the continuity of communication.

The decade between 1930 and 1940 saw the introduction of such somatic treatment procedures as fever therapy for the treatment of the parietic, insulin coma for schizophrenic reactions, and convulsive therapy for the affective disorders. These dramatic therapeutic innovations necessitated a great deal more physical study of the patient which led to the incorporation of many

additional forms including releases and other data needed to structure the patient's medical records for medical and administrative purposes. In parallel with the above developments the data obtained in the clinical history, the mental status, and progress notes began to display the increasing impact of psychodynamic formulations. This was followed by the introduction of social workers and psychologists who also added their contributions to the patient's medical records.

The establishment of a training school for practical nurses brought about further improvements in nursing notes. Standard forms began to appear for the reporting of accidents, restraints, and seclusion. All data relating to the patient including increasing correspondence from relatives and others contributed their volume to the medical record. In addition, as the population became much more mobile, patients drifted from one hospital to another, with an increasing tempo of communications between hospitals, leading to corresponding needs for abstraction services and the filing of abstracts from other hospitals into the patient's records.

The impact of World War II unmistakably affected the complex structure of the developing medical records from a negative standpoint. The lack of professional personnel created by this world conflict resulted in a marked diminution of reporting. At times the records seem to consist of little more than the commitment papers, admission notes and form letters filled out by the patient's relatives. The records thus reflected the glaring deficiencies which developed throughout the hospital structure from both the war years and the state of public apathy which followed in this area. This terminated dramatically in the post-war years in an exposé in the Maryland papers which was entitled, "Maryland's Shame" and was symbolic of the reawakened and increasing emphasis on the need to deal with the problem of mental illness in a much more energetic fashion.

This increasing emphasis led to the intensification of the educational training program of both the professional and paramedical services. A Department of Psychi-

atric Education and Training was established which culminated in the approval of the hospital for a 3-year residency training program in psychiatry. This increased the need to have the records meet certain standards. As the professional staff became more sophisticated in treatment needs there was increasing concentration and scrutiny of the clinical data being reported and the evaluation of the case histories.

Always in parallel were the increasing administrative procedures evolving from such a new social development as Social Security and increasing forms to be completed originating in various types of expanding insurance programs. There was the introduction of a whole group of psychopharmaceutical compounds with a marked treatment impact upon patient populations. The development of the therapeutic community concepts and the intensification of treatment programs began to change the tempo of the hospital activity from one of custodial care to that of an active treatment center including pre-admission screening and outpatient services. This resulted in demands for the more rapid processing of medical record data and additional subdivisions of medical record reporting.

The establishment of a research department in 1953 brought the patient's medical records under the scrutiny of its expanding investigations. This resulted in more and more criticism concerning the feedback of data, a consideration of the forces which limited this and what could be done to increase its possible potential in providing meaningful information as the fruits of a superimposed research effort directed patient care and treatment into new departures. The present study is one of its byproducts.

II. A REPORT ON A STUDY OF THE SPRING GROVE STATE HOSPITAL MEDICAL RECORDS BY THE CONSULTANT UNIT OF THE BIOMETRICS BRANCH OF THE NATIONAL INSTITUTES OF HEALTH

In 1956 the hospital records were studied by Mr. Ben Z. Locke, Chief of the Consultant Unit, Biometrics Branch of the NIMH. This study was focused primarily on increasing the effectiveness of the pa-

tient's documents as a statistical and administrative tool. This report emphasized mainly the multiplicity of forms, the need for the elimination of reduplication, the reduction of the bulky nursing notes, the collection of data on special therapies and some of the functions of the record room personnel and the need to begin a systematic approach to this problem.

This survey also reemphasized the need to plan for increasing demands which are being made for statistical information and services. While these, for the most part, may not be expected, techniques are being developed which will allow for the superimposing of these requests with a minimal interruption of data processing services. To meet this problem most effectively consultation with Federal and State biostatistical units should be obtained when any effort is being made to upgrade the patient's medical records.

III. FIELD TRIPS

Since there were a great many uncertainties relative as to how our records compared with other psychiatric hospitals and whether there were differences between the very well staffed private psychiatric hospitals, the university psychiatry clinic and the average state hospital a series of visits to such hospitals as Chestnut Lodge, Rockville, Maryland; the St. Elizabeth's Hospital, Washington, D. C.; and the Phipps Clinic of the Johns Hopkins Hospital were made. In addition, correspondence with several psychiatric hospitals in various parts of the country was initiated relative to the type of medical records maintained and the systems, procedures and forms used to accumulate such records. Conferences were attended in which personal contacts with individual medical records librarians were explored relative to the concepts formulated at the Workshop on Standards and Procedures for Medical Records and Reports in Chronic Disease Hospitals which met in Washington in November, 1956(3). This overall review was rather discouraging in that all the record systems seemed to be experiencing the same difficulties and it seemed that if we had problems our neighbors had even greater ones.

As these records were studied several

questions arose. Some of these were: How was the mass of data obtained in individual psychotherapy organized for recording in the patient's medical records; how were social service data processed; how were the psychological reports and voluminous nursing notes treated? In most of the institutions visited the pragmatic solution had been developed of summarizing these notes with the original summary placed in the patient's record and the work data kept in the physician's file or in the department concerned.

IV. THE ESTABLISHMENT OF A MINIMAL RETENTION SCHEDULE WITH A REVIEW OF THE STATE LAWS GOVERNING THE RETENTION AND RETIREMENT OF INFORMATION IN STATE PSYCHIATRIC HOSPITAL MEDICAL RECORDS

One of the consequences of the above study was the employment of a registered records librarian (Miss Margaret R. Lloyd) at the request of the Maryland State Department of Mental Hygiene to survey the records of the state hospitals from this standpoint. On the basis of this survey the need for the establishment of minimal record data was emphasized. This led to a review of the state laws governing the retention and retirement of information in medical records by the Maryland State Hall of Records, and in December, 1956 a new retention and retirement schedule was put into effect.

For the first time in many years it became possible to have a great volume of the patient's medical records reduced by the disposing of irrelevant material. Subsequently, there followed the introduction of microfilm, and all records dating back 10 years or more were placed on microfilm and the voluminous space consuming documents which had to be stored in a great many files became a problem of the past.

V. A METHOD OF APPROACH IN AN ATTEMPT TO MAKE RECORDS IN A STATE PSYCHIATRIC HOSPITAL MORE EFFECTIVE DOCUMENTS—TITLE FIVE GRANT (OM-92) N.I.H.

These investigations indicated above made it apparent that no ready-made system could be installed but that an effort extending over several years would be

necessary to develop a document sufficiently responsive to the demands of present day psychiatric treatment and care. To obtain this support a 3-year grant was obtained which had as its primary objective only a limited first step, namely, "to develop a method of approach."

The project was carried out by a group of organized committees within the hospital with the responsible coordinating administrative committee called "the Project Committee." The Project Director was the clinical director of the hospital, and the executive director a registered medical record librarian.

An attempt was made to review the information and material available on medical records in this area. The information in the pertinent literature (4, 5, 6, 7, 8, 9, 10) was relatively limited. Correspondence was initiated with other psychiatric hospitals and conferences were arranged to discuss some of these problems.

Surveys were carried out regarding the numerous forms and the adequacy of information they contributed. For example, 29 forms went into the record, some filled out with information obtained from those already previously filed. It seemed that a form could originate with anyone who decided that it was needed. The results of these investigations were not disheartening but only because they had been expected. It was found that none of the hospital groups of professional personnel were satisfied with the record as a medical and legal document and had felt frustrated in doing anything in this area, since there had seemed to be no strongly organized supporting structure to bring about the supervision of the changes and report on their adequacy.

The necessity of frequent orienting, informing and reminding the numerous individuals of their role and responsibility in regard to medical records and the importance of records became very obvious during the early stages of this project. As the result all new physicians as part of their orientation were introduced to the medical record department, its functions and their own responsibilities. This led to many valuable suggestions by the staff members which were put into effect (11, 12). Orient-

ing activities were also carried out with the other hospital departments dealing with the medical records and they were encouraged to initiate procedures in their areas which would contribute to the improvement of the patient's records. Finally, the Project Committee decided that an attempt should be made to institute as closely as possible those medical records practices considered sound by general hospitals and develop as needed new procedures, systems, and forms appropriate for a state psychiatric hospital.

Accordingly, the following steps were taken : (a) The authority and responsibility of the medical record librarian and the functions of the records department were outlined. (b) A decision was made to centralize the medical records unit on the admission service of the hospital. (c) A reorganization of the records department was carried out establishing a table of organization. This included a correspondence unit and transcription pool. (d) Evening and weekend coverage was begun. (e) Procedures were established for the arrangement of a filing order in the medical record, the development of a new administrative packet, the establishment of a ward chart, and (f) the introduction of modern business machine types of equipment.

(a) Up to this time the medical record librarian had only been responsible for the functioning of the medical record room but had had little authority for its administration. This had resulted from an old tradition in the hospital administration placing the Superintendent's secretary in charge of the secretarial and record room staff. In these modern times the operation has grown too complex for such handling and steps were taken to clearly define the lines of authority and responsibility of the medical records librarian, who was made directly responsible to the Clinical Director. Participation by the M.R.L. in the combined periodic clinical and administrative staff meetings was encouraged. A medical record committee was organized which met monthly to review the records and to provide the necessary supporting structure to bring about changes and supervise the functioning of the records department. The functions of the medical record department

have been further clarified using as a guide the survey completed for the A.A.M.R.L. by a study group of the University of Pittsburgh(13). A by-product of this action was the removal of the accumulations of activities and responsibilities which have been encrusted on this department and which had no direct relationship to the medical record department functions.

(b) Previously there had been one main and several minor record rooms scattered throughout the hospital. A study of the functions of the hospital indicated that the most strategic area for a centralized medical records area would be the admission service since it was here that new records had to originate and where the records of readmitted patients could be immediately available. In addition to being an extremely important crossroad area it was also an area for teaching and conferences. Here were also located the majority of the clinical and many of the administrative services. This location in the busiest area of the hospital was an extremely effective functional arrangement.

The records are immediately available to the majority of the services using them and particularly to the admitting physicians. The medical record librarian is readily available to consult with the physicians. She has closer supervisory control over her personnel, flow of work can be evenly maintained, communication channels are more effective and duplication of work can be better avoided. Each physician has been assigned an incomplete record box in a maximally accessible chart completion room and he can easily be reminded of any tardiness in carrying out his responsibilities.

(c) The organization of the department brought about the establishment of a central transcription pool which brought about a more even distribution of the workload. The original copies of any transcription pertinent to the patient are filed in the medical record. A correspondence unit was established for taking whatever direct dictation is necessary from the physicians for filling out insurance, Social Security, other forms and answering inquiries by mail and phone. A detailed written policy for release of medical information was prepared. This was approved by the Attorney General of

the state and guides the release of information. The workload of this unit has grown steadily with the increase of correspondence with general hospitals and expanding psychiatric services in the community as well as closer cooperation with these facilities.

A study of all job positions in the medical record department was made in an effort to detail their functions and classifications. Many positions have been reclassified to meet the demands created by changes in policy and procedures. Presently the following units and the corresponding personnel comprise the medical record department.

1. Admission Unit —Senior Typist
2. Assistant to the
Medical Record —Medical Stenog-
Librarian rapher
3. Correspondence —Medical Stenog-
Unit rapher, Senior
Stenographer
4. File Unit —2 Senior Clerks
5. Medical Surgical —2 Medical Stenog-
Unit raphers, Senior
Stenographer
6. Outpatient Unit —Medical Stenog-
rapher
7. Statistical Unit —Principal Clerk,
Senior Typist
8. Transcription Pool —4 Senior Stenog-
raphers, Senior
Typist

Only the medical surgical and the outpatient units are located in other buildings. Some positions are not reclassified as yet which explains, for instance, why there are four senior stenographers in the transcription pool.

(d) Two important developments were the initiation of evening and weekend coverage in the record room. The evening shift functions from 3 to 10 p.m. and has the responsibilities of filing the returned medical records, pulling records for the next day's work and filing loose material such as laboratory slips, correspondence, and so forth which is found to be of great advantage. These two employees also answer phone calls which cannot be handled at the switch board, help physicians with clerical services and make addressograph plates. In the past there was always a chronic delay extending over several months of filing data.

This filing is now up to date. Another extremely important innovation in the medical records section was the initiation of weekend coverage (8:30 a.m. to 4:30 p.m.). A survey had shown that 23% of the admissions took place on weekends. In the past these patients were not fully recognized administratively until the following Tuesday or even Wednesday. This weekend shift in addition to other duties provides the usual administrative procedures of clerically admitting the patient and sending the necessary patient records to all the hospital areas involved. In short, there is no load at the beginning of the week to create a drag on the medical record system. Regular medical record department employees cover weekends by rotating once every 3 months.

(e) 1. *Filing order in the medical record*—All material going into patients' records is being placed in a specific order decided upon by the Project Committee with the cooperation of the medical and senior secretarial staff. On the right side of the folder is the clinical material with the last progress note or the discharge note on the top. On the left side are administrative and statistical data and correspondence with the most recent copy on top. Some carbon copies and nursing notes and reports in active charts are attached to a card kept in the folder. This arrangement has been found to be simple and practical.

2. *Forms*—A new administrative packet has been developed to serve the needs of the medical record department and several other hospital departments and individuals as well as the Social Security and Veterans Administration agencies. Its use saves typing time and has eliminated several of the old forms. A number of other forms were revised, some of them to meet medical legal requirements. New forms and the revision of old ones must now be approved by the medical record committee.

3. *Ward Chart*—A carbon copy of all clinical data and some additional information is kept in a separate record on each patient in his respective area. This so called "ward chart" is extremely helpful particularly in large patient areas and is mainly used while evaluating patients by the research department, for dictation of progress

notes, in dealing with relatives, in cases of emergencies at night, *etc.* When the patient is discharged the ward chart is filed in the patient's medical record. If the patient is readmitted the ward chart is sent to the admission ward and follows the patient during his entire hospitalization.

(f) 1. *Dial Dictation System*—The dial dictation system whereby the physician can by using any telephone dictate into a recording machine in the transcription pool has proved to be effective and successful. Its main advantages over the individual dictating machines in our setting has been the immediate transcribing of clinical data which the physician has elicited and which is still fresh in his memory. There is also less delay in transcribing the material since the disks do not have to be brought to the transcription room. Several dictating machines are available in various hospital areas which are primarily used for lengthy dictations or in cases when all three central recording machines for some 25 physicians are in use.

2. *Addressograph System*—This functions on a principle similar to a "charge plate" and has been installed throughout the hospital wards and in the medical record room where the plate is made. This equipment contributed greatly both to savings in time and the accuracy, legibility and uniformity of the record material. The plates are kept in the nursing stations and are transferred with the patient as movements to different wards take place. It has also been our experience that the most practical type of plate was a white plastic type in which the raised letters could be easily read as the result of their staining by the carbon ribbon in the addressograph unit.

3. *Open Shelf Filing*—The files have been effectively used to house all the medical records for the past 10 years. These numbering approximately 15,000 are filed in a room 14 by 16 feet. This was only possible with this type of shelving. It is recommended that 7 tiers (84") be the maximum for an active file room. The problem of dust has been a minor one and will further diminish with the installation of an air conditioning unit. The older records were microfilmed and the roll microfilm kept in the record room with the microfilm reader-

printer machine. A great amount of space has also been saved by microfilming. There are some doubts, however, that microfilming is an adequate substitute for the original record.

4. *Visible File*—A tray type visible file cardex installed on each ward has been found to be very practical and helpful in many respects. It has three basic forms for each patient—doctor's order sheet, summarized nursing notes and hospitalization data sheet. This last form contains brief statements on patient's problems including those leading to hospitalization. Only the doctor's order sheet is kept as a part of the patient's permanent record. This system has proved most effective in dictating progress notes, in reducing the bulk of nursing notes, and making all relevant information readily available. The ward charts and the visible files have been important factors in the improvement of the quality and quantity of information on patients in prolonged treatment areas. It has greatly reduced the margin of error in patient identification and treatment and has established uniformity of reporting observations, treatment and patients' activities. It is being used successfully by the research department as well. The easy accessibility of data and their compactness and portability have made these tray files invaluable. During a recent fire in a patient building all patients were led out to safety, and the file with enough relevant information was easily picked up and ready to use in the new area.

5. *Flexoline System*—This consists of a number of metal frames, arranged in a similar way to the pages in a book, holding individual strips with non-confidential information for each hospitalized patient and permits the switchboard operator within a matter of seconds to answer inquiries from relatives, police and other legitimate sources. In the past all these disrupting telephone calls were channeled into the medical record room. In order to prevent at times very embarrassing situations it is most important that this system is up to date at all times.

6. *Electrically operating rotary file*—A file holding all active patient's register cards containing patient's identification data, type of commitment, *etc.*, made all

this information on some 2,500 patients easily and quickly accessible. Temporarily mainly due to lack of funds there still remains a drawer type patients' index card for every discharged patient.

7. *Additional equipment*—Two 100-unit vertical Sort-alls are used to alphabetize all loose material prior to the filing. These folders require little space, have increased sorting speed and reduced sorting errors. Photo copying equipment in spite of its relatively high cost is being used advantageously primarily because of the exactness of reproduced copies and the amount of time saved.

DISCUSSION

Although this report has indicated some of the accomplishments in the area of medical records these accomplishments have not been easy to achieve. After 3 years of work we have only been able to construct what we hope will be a more organized baseline controlled through quantitative and qualitative analyses. One of the important byproducts of this project, however, has been the increasing participation by the hospital personnel in looking at the medical records as a document with dynamic possibilities.

The heads of departments have had to restudy systems and procedures for obtaining and maintaining record data which they had come to take more or less for granted. The differences of opinion and conflicts which resulted as changes were planned were extremely illuminating as to the needs of each group and their lack of awareness as to the needs of the other departments. This turned out to be a valuable educational process. Finally, the developments in the medical records project became a focus of attention for their counterparts in the other state psychiatric hospitals of Maryland. This in turn led to more rapid changes of a constructive nature which could not have been brought about as effectively if they had each been working alone with no central point of reference. This suggested the possibility of designating one hospital in a state hospital system as a continuing source of such activity. Those procedures which turn out to be helpful or more effective could thus be adopted

more quickly by the others. An area where this may be particularly useful is experimentation with machine techniques which are being developed in the field of medical data processing.

The presentation of this report does not imply that our task is finished. In fact, it is felt that we have just arrived at a position where a meaningful departure can be attempted in developing more effective systems for recording the events which take place in the various forms of therapy which are carried out in a psychiatric hospital setting. We need the more meaningful reporting of data in such procedures as psychotherapy both individual and group, the somatic and drug therapies and the rehabilitative procedures attempted. That good techniques have as yet not been worked out in the actual operations of the psychiatric hospital indicates the difficulties which lie ahead.

CONCLUSION

Approximately 17,000 patient medical records were analyzed at the Spring Grove State Hospital over a 4-year period in order to determine what might be done to increase the usefulness of this document. The experiences and results reported by this study emphasized again and again that there are no substitutes for an adequately subsidized, staffed and maintained medical records department. Compromise in this area only compounds confusion, for slowly and insidiously the record is constantly changing in order to meet the development of new methods of treatment and care. This change uncontrolled will result in an increasingly costly and ineffective document. As more sophisticated instrumentation appears in the area of data processing and retrieval, the sound structure of a good medical document will become an increasingly important necessity.

ACKNOWLEDGMENTS

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DISCUSSION

FRANCIS J. O'NEILL, M.D. (Central Islip, N. Y.).—This paper is of unusual interest to the mental hospital administrator in that it

proposes the introduction of modern methods for handling the voluminous clinical records accumulated in the record rooms of our public mental hospitals. For the past 75 years, and longer in some cases, a veritable flood of handwritten documents, typewritten sheets and numerous forms of all varieties have been accumulated as part of the clinical history of the psychiatric patient. In many instances it has been customary to produce this material in duplicate. Our unscientific, often compulsive practices in record keeping has imposed an almost impossible burden upon professional and secretarial staffs. Most mental hospital administrators have long recognized the uselessness of a great deal of this accumulated avalanche of paper.

Anyone who has attempted to extract valid information from such records has quickly learned that their research value is of a very low order. Others have argued that extensive record keeping is a legal necessity. Therefore almost anyone responsible for contributing to the care of the patient has been compelled to record their guesses, observations and unsubstantiated opinions in the clinical record. In many cases this material has been damaging to the hospital when the record was introduced as evidence in court during a civil suit, and the judge invariably permits the opposing attorney to have free access to the patient's record. Many of us have spent long hours squirming in the witness chair attempting to justify, validate or excuse the irresponsible recordings in the record. The legal profession places great value upon any statement made a part of the patient's history. There can be no doubt but that we are in need of a complete review of our procedure of record keeping.

This discussant while visiting British hospitals attempted to learn something of their record keeping procedure and was astonished to find that in every hospital visited, little emphasis was placed upon recording in the history. In most instances, patient's records consisted of a few handwritten sheets of paper frequently illegible. In most of the British hospitals the psychiatrist has not been given secretarial help or dictating equipment. Perhaps the British method of almost complete elimination of clinical records is as excessive as our own compulsion to over-record.

This paper serves a very useful purpose in proposing the introduction of such procedures as micro-filming, central recording, central filing and the employment of qualified medical record librarians. There are some defects in this procedure in that it calls for the making

of carbon copies of all clinical data to be filed separately, to compose the "ward chart." This may very well be the only answer to the need to make records readily available in the patient area. However, it is hoped that duplication of records can be forever eliminated. The dial-dictating system has already had extensive trial in psychiatric and general hospitals. This appears to be a significant advance and is to be commended.

In spite of our vast experience in data recording and processing we have yet failed to identify the pertinent material that should become an integral part of the patient's clinical record.

This splendid paper undoubtedly meets the objectives of the authors in that it clarifies the mechanical process of recording and filing, setting standards which are acceptable and consistent with modern business methods. It will probably be a long time before most public mental hospitals will be able to afford

the staff and equipment required to carry out these recommendations. It is hoped however, that this paper may become a model for construction of patient's records in our hospitals. This discussant hopes, however, that the authors having done such a fine job, may now find an opportunity to do some research to answer the still important question of what should be recorded and who should do the recording. When this question is finally answered we may develop a system of record keeping which will be simple, useful and devoid of the numerous deficiencies now built into most of the clinical records of our hospitalized psychiatric patients.

It has been a pleasure to read this excellent paper and to commend the authors for having undertaken the much needed re-evaluation of our antiquated and highly unscientific record keeping procedure. It is hoped that their recommendations will find general acceptance and wide adoption.

SUICIDE AND SUICIDAL ATTEMPTS IN CHILDREN AND ADOLESCENTS¹

JAMES M. TOOLAN, M.D.²

Contrary to popular opinion suicide and suicidal attempts are not rare in childhood and adolescence. If we review the vital statistics of 1958(1) of this country we note that successful suicide is infrequent under 10 years of age. In fact only 3 cases are so listed. In the 10-14 year group, however, we encounter suicide more frequently and there is a distinct increase in the 15-19 year group (1). Although these figures may appear low

Here the female predominates by an equally large margin (See Figure 2). This paral-

FIGURE 1

		AGE 5-9	10-14	15-19
White	Male	3	58	255
	Female	—	11	96
Negro	Male	—	4	10
	Female	—	1	4
Other	Male	—	—	—
	Female	—	—	2
Total		3	74	367

they are higher than the deaths from nephritis and nephrosis, leukemia, all forms of pneumonia, tuberculosis and poliomyelitis in the 15-19 year group. It must also be emphasized that the above figures are undoubtedly all underestimated. Many cases of suicide are concealed by parents and well-meaning physicians under the guise of accidents. Furthermore many accidents are at best thinly disguised attempts at self-destructive activity. Accidents, incidentally, lead all other causes of death in childhood and adolescence by a vast margin(1).

In the above statistics we note that males outnumber females in successful suicides by a considerable margin. This is true throughout the world for all age groups although the incidence varies considerably from country to country. The situation is reversed when we consider suicidal attempts.

¹ Read at the 117th annual meeting of The American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

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FIGURE 2

AGE	Landrum(3) Piker(4)		Landrum Piker		Landrum Piker	
	TOTAL NUMBER		MALES		FEMALES	
10-14	5	15	1	4	4	11
15-19	122	223	11	24	111	199

el holds true for older ages. It might be postulated that males find it easier to be aggressive either towards themselves or others, so that they are successful in suicidal attempts and rarely make them for other reasons as do girls. It is also of interest to note that Negroes commit suicide less frequently than whites (percentage adjusted for relative population distribution). This is the reverse, incidentally, for homicide where Negroes commit a significantly greater number of homicidal acts. Suicide is especially common among university students, ranking second only to accidents as a cause of death(2). As regards methods of suicide, males prefer firearms and hanging, while girls use poisoning most frequently.

As with suicides, there is an increase in suicidal attempts from the younger child to the adolescent. What may surprise many is that adolescent females make 10%-12% of all suicidal attempts(3). Despite this there have been surprisingly few studies on this important problem. In 1937 Bender and Schilder(5) described 18 children under 16 years of age who either threatened or attempted suicide. The children were reacting to an intolerable situation. They felt unloved, became angry and then guilty for such feelings and attempted suicide. They also used it as a method of punishing their parents. Schilder and Wechsler(6) in studying the child's concept of death pointed out that children do not usually recognize the finality of death but view it as a reversible process.

There have been only two recent studies on the subject of suicidal attempts by ad-

olescents. Mason(7) reported on 4 adolescent females who used their diabetes in a suicidal fashion. Balser and Masterson(8) reviewed the records of 500 adolescent patients. They discovered a total of 37 suicidal attempts, of whom 23 were diagnosed as schizophrenics. They discussed the relationship of schizophrenia to suicide. Unfortunately they did not give the sexual ratio of their patients.

In reviewing our statistics from Bellevue Hospital for the year 1960, we note that of approximately 900 admissions to the children's and adolescent services, 102 were for suicidal attempts and threats. Of these, 18 were under 12 years of age, and 84 from 12 to 17 years of age.

FIGURE 3

Adolescent—Female Male	AGE	NUMBER	Children
	74		7
	10		11
	5		1
	8		4
	9		4
	10		4
	11		5
	12		10
	13		11
	14		23
	15		21
	16		19

We note here a steady increase in age beginning at age 8 years. There was one outstanding exception—a 5-year-old boy was admitted to the hospital because of suicidal threats and self-destructive behavior. He burned himself over a gas heater and also poured scalding water over himself. Afterwards he picked at his wounds so that they did not heal properly.

FIGURE 4

	RELIGION
Cath.	62
Prot.	26
Jew.	9
Other	4
Not obtained	1

The figures are at variance with the religious distribution of the entire population. The high percentage of Catholic youngsters

reflects the large number of females of Puerto Rican extraction, who utilize suicidal attempts as a method of solving many of their problems. It is also a reminder that adherence to a religious group that strongly opposes suicide (R.C.) by no means precludes such attempts.

FIGURE 5
Race and Derivation

White	32
Colored (except Puerto Rican)	28
Puerto Rican	40
Other	1
Not obtained	1

We find confirmed the very high percentage of Puerto Rican youngsters who attempt suicide. This is in striking contrast to the figures for the Girls Adolescent Service as a whole.

FIGURE 6

White	146
Colored (except Puerto Rican)	125
Puerto Rican	57

FIGURE 7
I.Q.

Below 60	4
60-69	5
70-79	14
80-89	13
90-99	20
100-109	12
110-119	2
120-129	1
Not obtained	31

The range of intellectual functioning is about the usual in the Bellevue patient population, with the exception that fewer mental defectives were encountered among our suicidal population.

Figure 8 shows that only children are

FIGURE 8

Ordinal Position	Only child	Siblings
1	49	95
2	19	
3	10	
4	5	
5	5	
6	2	
7	2	

few in number, which conforms with Kallmann's report(9). The very high number of first children stands out.

Figure 9 shows the disorganized homes from which these children come. Less than

FIGURE 9
Current Living Arrangements

Both parents	32
Mother	42
Father	3
Relatives	■
Foster Home	3
Institution	10
Other	3
Not obtained	1

one-third reside with both parents. It goes without saying that many of these "intact homes" were emotionally disorganized. It is of interest, however, how few foster children are included in our population.

FIGURE 10
Absence of Parents (For more than 3 consecutive months)

Father during 1st year	20
Father during 2nd year	9
Father after 2nd year	23
Mother during 1st year	2
Mother during 2nd year	4
Mother after 2nd year	2

Figure 10 emphasizes the chaotic home situation from which these children come. Fathers especially have been absent from their lives. The figures for the absence of the parents must be considered as minimal since many of the mothers attempted to deny any possible shortcomings in their past.

FIGURE 11
Diagnosis

Childhood schizophrenia	12
Schizophrenic reaction	33
Personality pattern disorder	10
Personality trait disorder	25
Transient situation reaction	2
Mental deficiency	4
Neurotic reaction	16

The majority of the adolescents were diagnosed as behavior and character dis-

FIGURE 12
Disposition

Home	41
Psychiatric hospital	39
Correctional institution	2
School for defectives	4
Residential training center	4
Institution for normal children	1
Other	11

orders, depressive reactions and adjustment reactions of childhood and adolescence. The younger children appear to have been more disturbed. The majority were diagnosed schizophrenic.

These figures, therefore, are in general agreement with other studies as regards age and sexual ratio. The incidence increases with age, and females predominate. We differ from the Balser and Masterson study, however, inasmuch as schizophrenics do not predominate. The largest group is composed

of behavior and character disorders. They are immature, impulsive youngsters who react excessively to stresses, often of a minor nature. When these patients are studied in more detail, however, they show many symptoms of depression: restlessness, boredom, compulsive hyperactivity, sexual promiscuity, truancy, behavioral difficulties at home, and running away from home(10).

One of the reasons that suicidal attempts have been overlooked in children and adolescents is the erroneous concept that youngsters do not experience depression. It is true that they do not exhibit the signs and symptoms of adult depressive reactions but rather other symptoms. In the latency child behavioral problems (temper tantrums, disobedience, truancy, feeling that no one cares for him, running away from home, accident proneness, masochistic actions, self-destructive behavior) often indicate depressive

feelings. The youngster is convinced that he is bad, evil, unacceptable. Such feelings lead him into antisocial behavior which in turn only further reinforces his belief that he is no good. The youngster will often feel inferior to other children; that he is ugly and stupid. Boys, especially, have a need to hide soft, tender, weak sentiments. Denial is often used to ward off depressive feelings.

The adolescent may exhibit depression by: boredom, restlessness, preoccupation with trivia. He loses interest in things and then frantically seeks something new to entertain him. He cannot be alone. He must be constantly busy, and needs continual stimulation to escape the boredom that threatens to engulf him. Acting out by means of delinquency, sexual promiscuity, alcohol and drugs, may help the adolescent escape his depressive feelings. Other suspicious signs of depression in the adolescent are excessive fatigue, hypochondriacal preoccupation, and difficulty in concentration.

When we attempt to study the causes for these suicidal attempts, several categories emerge:

1. Anger at another which is internalized in the form of guilt and depression. Usually parents or parent surrogates are the original objects.

A 16-year-old girl had a violent argument with her mother over her late hours. She was furious at her mother for interfering with her life and thought how simple things would be if the mother were dead. Shortly thereafter she felt tired, depressed and guilty over her behavior. She then attempted suicide by swallowing her mother's sleeping pills.

2. Attempts to manipulate another, to gain love and affection, to punish another. These too are often directed against the parents with the fantasy of "You will be sorry when I am dead. You will see how badly you treated me." Many of these youngsters previously had the same fantasy when they ran away from home. Adolescent girls often made suicidal attempts when they had been rejected by their boy friends.

A 16-year-old girl had withdrawn from school because of a school phobia. She insisted upon her mother being continually in attendance and in accompanying her wherever she wished to

go. The mother had taken a leave of absence from her job to be with the daughter. When she announced that she planned to return to work the girl slashed her wrists. The attempt produced the desired end as the mother continued to stay at home.

3. A signal of distress. At times the suicidal attempt is a dramatic and last ditch effort to call attention to one's problems in the hope that effective help will be forthcoming.

A 16-year-old girl found herself unable to concentrate upon her school work. She was disturbed over her relationship with her boy friend. As time passed she developed anxiety, insomnia, and feelings of depersonalization. Afraid that she was going crazy she attempted suicide by swallowing pills but left a note asking to be taken to a mental hospital in case she did not die.

4. Reactions to feelings of inner disintegration, as a response to hallucinatory commands, as a desire for peace and a nirvana-like existence; these are likely to be serious attempts.

A 14-year-old boy swallowed poison to prove that he was invulnerable. He also wished to find out what death was like.

These patients resemble those described by Balser and Masterson. It should be recognized, however, that to diagnose a patient as schizophrenic is not sufficient to explain such suicidal attempts as the majority of schizophrenics do not attempt suicide unless they are depressed. It may happen that the depression is a reaction to the awareness of their own pathology.

5. A desire to join a dead relative may appear of importance.

A 12-year-old girl made a serious suicidal attempt by taking a large amount of sedatives. Her mother had died about 1 year previously and she frequently dreamed of the dead mother urging her to join her.

DISCUSSION

It is our theory that the common denominator in all depressive reactions is loss of the love object(10). Certainly the patients in our study have suffered in this respect.

Less than one-third were living with both parents at the time of admission. Many of the parents (especially the fathers) have been absent from home for considerable periods of time. The high percentage of first children may reflect the fact that they are particularly vulnerable to feeling unloved and rejected following the birth of a sibling. Such object loss will produce serious reactions at any age but the end result will depend upon the developmental level at which it first makes its effect felt. In the younger child the disturbances will primarily affect the development of the ego in all its various functions. The child will find it difficult or impossible to form the object relationships which are such a necessary part of his future psychic development. Such a deficit may lead to a lack of further development or even to severe regression. This lack of ego development will seriously impair the emotional and intellectual potential of the growing organism. It will, in addition, cause serious disturbances in the child's ability to identify with meaningful figures in his environment. Such a disturbance in the process of identification will of necessity produce profound disorders in the development of the superego and the future personality structure. When the loss occurs during the latency and adolescent periods it will lead the child to hate the lost object, who he feels has betrayed and deserted him. These hostile feelings can only lead to further serious conflict. The child still needs his parents as he is still realistically dependent upon them for love and support. In fact the more he is neglected by the parents the greater is his need for them. The child will desperately cling to the forlorn hope that they will change and give him the love he needs so desperately. Consequently repression and denial are utilized in the hope of warding off the devastating knowledge of his parents' role in his difficulty. The child would prefer to consider himself bad than to acknowledge the badness of his parents and the resultant impossibility of their changing. In assuming the burden of evil he attempts to absolve the parents. Such an evil self-image can only lead the child to evil acts which in turn reinforce his image of himself as an evil person. As the child's reality testing im-

proves with his advancing age he finds it increasingly difficult to maintain his belief in the innocence of his parents. As a result his hostility towards them increases as do his guilt feelings. Simultaneously the processes of identification and introjection have been progressing in the formation of the superego. Thus as these processes reach their maximum development (which does not occur until late adolescence) (11) much of the hostility previously directed towards the parents is directed towards their introjects within the child—leading to the clinical picture of depression seen in older adolescents and adults.

The above would help explain why children make fewer suicidal attempts than adolescents and adults. There is the additional factor that the child under 10 years of age has an incomplete notion of death—often considers it reversible and seldom if ever applicable to himself, only to older persons. Children are more likely to express depressive feelings by threatening to or actually running away from home. As already mentioned, many adolescents who make suicidal attempts have had fantasies of running away or have done so with the accompanying thought "You will be sorry for having treated me badly."

SUMMARY

A study of 102 children and adolescents who presented suicidal thoughts and actions is described. They represented approximately 11% of all admissions under 16 years of age. The majority were adolescent females diagnosed as character disorders, who were reacting to stressful situations. The majority came from chaotic homes where one or both parents were absent.

It is our belief that suicidal thoughts and attempts are either ignored or undervalued in adolescents because of the erroneously accepted tenet that adolescents do not become depressed, *ergo*, suicide is unlikely. If we can successfully recognize the signs by which depression is manifested in younger persons we shall then be in a position to prevent many serious suicidal attempts.

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RECENT RESEARCH INTO SUICIDE AND ATTEMPTED SUICIDE¹

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Most suicide research has been retrospective. It has been chiefly concerned with the fatal suicidal act which has been thoroughly investigated with statistical and clinical methods. The psychoanalytic approach, also, has been largely historical and reconstructive. In the study of attempted suicide the same questions have been posed as in the study of suicide. So fascinated have psychiatrists been with the enigma of self-destruction that they have failed to take cognizance of a host of other problems arising from suicidal behaviour. Is it not a paradox that psychiatrists and sociologists alike, having found a variety of factors which drive people to suicide, have until recently failed to ask what happens to those people, and to those factors, if the suicidal act is not fatal?

COHORT STUDIES OF ATTEMPTED SUICIDES

Systematic follow-up studies or, to use the modern term, cohort studies, of attempted suicides have not been carried out until recently. I have during the last 10 years been engaged in such studies (6, 7, 8, 9) which opened up a new approach to the understanding of suicidal acts, fatal and non-fatal. There are only 2 other comparable investigations, the one by Dahlgren (2), 1945, of Malmö, Sweden, and the other by Pierre B. Schneider (5), 1953, of Lausanne, Switzerland. The samples investigated, though unselected, differed considerably and the periods covered by the catamnestic investigations varied, the longest being 18 years. It was found that only a small minority of people who had attempted suicide previously, had killed themselves; the maximum proportion was 1 in 10 after 18 years. Although numerically this is only a small minority, it nevertheless shows that the risk of suicide, by which I mean the fatal suicidal act, is far higher

among those with a history of a suicidal attempt than in the general population. It is hardly possible to establish the suicide rate among those who have attempted suicide, but we should be able before long to estimate the specific cohort mortality rate from suicide in this group. The findings of the Los Angeles Research Group³ and my own studies suggest that in an urban population the number of people who attempt suicide annually may be as many as 7 to 8 times the number of suicides occurring in the same population. The figures might be lower in rural populations. This means that in the United States, where the number of suicides has recently been about 16,000 per year, the number of people who annually attempt to take their lives is unlikely to be below 110,000. The number of attempts would, of course, be higher. Considering that the average age of people who attempt suicide is lower than that of those who commit suicide, it is a reasonable guess that the number of people living in this country who have at some time in their lives made a suicidal attempt cannot be less than one million. If psychiatrists could reduce the risk of suicide among this group alone, they could make a worthwhile contribution to the reduction of the overall suicide rate.

TWO POPULATIONS

In considering both the fatal and the non-fatal suicidal acts, it is appropriate to distinguish two different though overlapping populations, some members of the larger one, i.e., of the attempted suicide group, entering the much smaller group of the suicides in the course of time. We know much less about the attempted suicide than about the suicide group, but from the samples available for study it can be assumed that they differ with regard to sex and age distribution and also with regard to the role of mental illness. It is of interest that only a minority of the suicide group have ever been members of the attempted

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suicide group. In unselected samples of suicides the majority have been found to have had no history of previous suicidal attempts.

THE OUTCOMES AND EFFECTS OF SUICIDAL ACTS

There are many factors which determine the outcome of a suicidal act, some obvious and well known, and some less obvious. I propose to deal chiefly with the latter ones. I have tried to view the suicidal act as a complex behaviour pattern and to examine all its aspects, not only those which serve the purpose of self-destruction. Only in a minority of suicidal acts is nothing left to chance. Among the various factors determining the outcome, the reaction of the human environment is often decisive. We cannot fully understand suicidal acts, unless we take these reactions of individuals and groups into account. In case of fatal outcome they react with mourning and sometimes with anger. There are marked guilt feelings similar to those following any bereavement, but more severe, because they are aggravated by the belief that with more love and attention the suicide might have been prevented. In case of survival, those close to the attemptor react with guilt feelings and endeavours at reparation. These psychological reactions become manifest in helpful responses from individuals and from society as a whole. Thus the suicidal attempt functions as an alarm signal and an appeal for help. It does so almost with the regularity of an "innate release mechanism"(3), irrespective of whether or not such an effect was consciously intended by the attemptor. I called this effect the appeal function of the suicidal attempt. It is important to take it into account in the study of the sequelae of suicidal attempts, because thanks to this effect the life situation of a person who has survived a suicidal attempt will not remain quite the same as it was before. A suicidal act, then, can be expected to have either of two results, *i.e.*, death or some helpful reactions from the environment. Some such reactions are most likely to be forthcoming even where at the same time part of the environment may react to the suicidal attempt with indifference or with punitive

action. The knowledge of the different possible outcomes and psychological sequelae of suicidal acts has found expression in suicide phantasies in which the posthumous appeal effect figures prominently. It is often difficult to assess how much the appeal function of the suicidal attempt enters into its conscious or preconscious motivations. The behaviour of the majority of persons who commit suicidal acts suggests that the human environment is given a chance to intervene. Communication of suicidal intentions, which is very common, often acts as an invitation to such intervention, but such warnings are frequently ignored. The danger to life, therefore, depends not only on the damaging agent, but also on the likelihood and willingness of other people to act as life savers, and on the efficacy of their intervention. In grading the dangerousness of a suicidal attempt, the closeness to other people and their readiness and ability to help have to be considered as much as the method employed. The great number of factors on which survival depends introduces an element of uncertainty about the outcome of most suicidal acts. Survival is, as a rule, accepted without demur, at least for a time. The uncertainty of the outcome gives most suicidal acts the character of gambles with life, or better still of ordeals, *i.e.*, of dangerous trials whose outcome is accepted as judgment of God or providence.

The appeal effect of the suicidal attempt and its ordeal character partly explain why suicidal attempts are not as a rule repeated immediately. The danger of a repetition at a later stage will depend on whether the suicidal attempt has brought about a change in the individual's life situation and his mental state.

There is another factor which might have a bearing on the effects of a suicidal attempt and the danger of its repetition. I am referring to the cathartic effect of the release of aggression directed against the self and others. This problem requires further study. Every suicidal attempt is an encounter with death and mobilizes profound anxiety in the attemptor and in the group or groups of which he is a member. My investigations complement the observations concerning aggressive tendencies in

suicidal behaviour which have been studied most comprehensively by Karl Menninger(4).

I have been trying to study suicidal behaviour and its effects in its social context. We cannot fully understand purposeful voluntary behaviour without also considering its predictable effects. This applies to the behaviour of man as much as to that of pigeons or other animals for whom this principle has long been accepted. However, the effects of human behaviour patterns are infinitely more complex than those observed in animals. There is, of course, only one effect of suicidal behaviour in case of survival which can be generally predicted, namely that somebody will somehow make the attemptor feel, if only for a fleeting moment, that he cares whether he lives or dies. This is an assurance which it is difficult for many people to obtain otherwise.

Suicide is dreaded in all societies, and efforts to prevent it are common to all cultures. The apparent reasons for this fear vary. In tribal Africa suicide is dreaded because it is believed to release malevolent and dangerous spiritual forces(1). In our civilization these forces have been partly internalised.

My approach differs from the conventional one in that it considers not only the person who committed or is likely to commit a suicidal act but also those individuals and groups which form his social environment and to whom the act is often quite openly addressed. Hitherto, only their part in the causation of the suicidal act has been considered, but not their reactions to that act. These I have endeavoured to investigate and I hope that other workers will do the same. There are plenty of problems here for the sociologist, the psychoanalyst and the clinical and social psychiatrist.

It is also necessary to emphasize that most suicidal behaviour is oriented towards both death and life at the same time. The outcome depends on the balance between those tendencies, and on other factors to which I referred earlier. The presence of life preserving tendencies and of the urge

for renewal of human relations is not always known to the person who commits the suicidal act, but his behaviour is often more revealing than his own testimony of his conscious motivations. It is a mistake to regard only those suicidal acts which leave nothing to chance as genuine.

The study of the immediate and long term effects of suicidal attempts showed a great variety of ways in which the attemptors' life situations had been changed temporarily or permanently as the result of the suicidal acts. An obvious example is the suicidal attempt which unwittingly leads to diagnosis and treatment of undetected physical or mental illness. There are many other less obvious sequelae, and not infrequently the suicidal attempt also leads to a modification in the mode of life of persons close to the attemptor.

In this short presentation it is possible to outline only a few of the problems under investigation and to refer briefly to the results of these studies. The apparent ambiguity of some of the concepts and observations reflect the ambiguities of behaviour in suicidal acts.

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CARL GUSTAV JUNG

ERNEST HARMS¹

With the passing of Carl Gustav Jung on June 16, 1961, the curtain of history fell on a period extending over three-quarters of a century during which the most outstanding and influential world concept received its orientation from insight into the reality of man's soul. Although Freud, Adler, and Jung, and most of those who joined them in the new approach, were first of all professional mental healers, or psychiatrists, it can now be seen historically that their attempt aimed to transform the physicalistic and physiologicistic world concept that had been built up during the preceding 300 years into an autonomistic orientation deriving from a point of view centered in man's inner life. Although there has been an astonishing amount of writing regarding this new psychological point-of-view, it must be conceded that almost all that has been presented by way of basic orientation has come from Freud, Adler, and Jung, the principal founders of the concept, and that no signs are evident that the concept will be carried much beyond what they have achieved. In fact, in the narrower field of psychiatry we are already witnessing, in this decade, a swing back to a neuro-physiological point of view expressed in the wave of pharmacotherapy. Still less can we see any definite promise that the psychological orientation will be revived in the foreseeable future.

During the first decade of the development of this new concept, workers in the field—almost all of them Freudians—and Freud himself created the impression that Sigmund Freud was the sole originator, and that the others, and especially C. G. Jung, were dissenters and traitors. This contention has been intensively opposed. Now, after half a century, the clouds of emotional attachment have been cleared from the historical horizon and a more objective view is possible. There can be no doubt that in the beginning Jung was considerably influenced by Freud. In his doctoral thesis of 1902 he

referred at several places to Freud's *Interpretation of Dreams*, and in 1904, the year in which *The Psychopathology of Everyday Life* appeared, he wrote, in a reply to a critic(1), an as yet never quoted sentence: "Die Analyse des Krankheitsbildes lehnt sich nicht an franzoesische Autoren sondern an die Freudische Hysterie-Forschung an" (My analysis of the illness tries to find support not from French authors but from Freud's research in hysteria). But this is as far as it went. If one studies Jung's first major work, his *Diagnostic Association Studies*, one cannot but recognize that here is a scientific mind completely different from Freud's, working from different basic approaches and with different aims. And if one follows the workings of this mind over the decade of relationship with Freud, one must also recognize, as this writer has shown(2), that it was directed toward clarifying differences and not toward submission to the other's wider concepts. When this difference was ultimately clearly defined in Jung's book, *Transformations and Symbols of the Libido* (in English it appeared as *The Psychology of the Unconscious*), it signaled the start of the final break. Freud stigmatized the break by personal accusations. Jung's way was always to avoid personal attacks. When the break between the Vienna and the Zurich group came, Jung announced his resignation as editor of the jointly-published journal simply as due to "personal reasons."

Because of his tendency to withhold personal information, it is not easy to draw a picture of Jung's personality. But history seems to demand to know more about a man's origins and motives than the man is sometimes willing to reveal of his own volition. From the few biographical sketches we have of Jung we receive the impression that the functioning of his personality and his passage through life were smooth as compared with the stormy events of Freud's life. To one, however, who was privileged to obtain a more intimate view, it is apparent that Jung's personality and activities were not without profound contradic-

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CARL GUSTAV JUNG

tions. He was born into a middle-class Swiss clergyman's family, but most of his adult life was lived as a well-to-do aristocrat. Those who knew him during the first decade of this century thought him the perfect type of a psychiatric institutionalist and academician. But this soon changed, and he remained for most of his life a practitioner and professional writer, returning only during the later decades to limited academic teaching at a chair especially created for him.

From his work one must receive the impression that to him nothing was more essential than group formations and man's collective relationships. Yet he never achieved the creation of a collective movement based on his philosophy of life, and in fact he made no serious attempt in this direction. It is hard to imagine a more cosmopolitan thinker than Jung, yet he has again and again been accused of racist and Nazi tendencies and attacked for being anti-Jewish-minded. This writer can state from personal experience that Jung did his utmost, both personally and financially, to help Jewish colleagues who were victimized by Nazi oppression. No one, not even Wundt, has more profoundly probed the realm of man's psychological experience than has Jung in his works, the American edition of which comprises 18 volumes. Jung, however, never attempted a systematic presentation of his work. All his works are of a problematic nature, and many of his books are collections of short problematic papers. In one of the most impressive discussions I had with him, to which I shall refer later, he said: "There is nothing more difficult than to think any problem really through to its end." This is characteristic of Jung's thinking, in which every problem contains the nucleus of at least two new ones.

Accordingly, Jung's psychology has grown out of an unfolding problematic. We see him starting out from what seems to be the psychological or psychopathological problematic of the turn of this century. Everywhere in Europe—in France, Italy, England, Middle-Europe, and Scandinavia—as well as on this side of the Atlantic, the professionals were occupied with the problematic of a super- or sub-consciousness and its

detrimental influence on the status of the human consciousness itself. Late in life Jung occupied himself with this problem of the simultaneous occurrence of similar problems in unrelated spheres of mankind's experience, and he designated this phenomenon, which others had called "Zeit-Geist," as "synchronicity."

Jung's initial tackling of this problematic, in his doctoral thesis of 1902(3), shows that he had a quite different and much wider view of these problems than Freud ever had. The entire study was more the asking of questions than an answer to one. Jung was very dissatisfied with the customary method of inventorizing consciousness. He presented his own attempt at a new method in an extensive research project which some years later was published as *Diagnostic Association Studies*. Although Jung has again and again been accused of unscientific mysticism, it was always his aim to develop exact scientific methods in whatever field of human experience he was working. The early *Diagnostic Association Studies* were still entirely in the realm of contemporary psychology, and they received the highest acknowledgment. Adolf Meyer, for example, wrote, in a review(4): "This remarkable piece of work and its continuation are no doubt the best single contribution of psychopathology during the past year." As practically everyone knows, these early tests devised by Jung have become the basis for broadly applied testing methods in psychopathology and criminology. Unfortunately, the translators of the American edition of the early works of Jung were not able to transcribe the terminology in which Jung was thinking at that time into the professional language of the American psychologists of today, making it almost impossible to understand the texts.

At the time that Jung was occupied with his association studies he had already realized that they would not lead completely satisfactorily to the revealing of the causal background of conscious factors which were themselves unexplainable. It was here that Jung had hoped to find, in Freud's psychoanalytical method, the key that would open the closed door. The importance of Freud's psychoanalytical method was always acknowledged by Jung. But Freud had more

than this method; he had an underlying predominantly bio-genetic theory—his libido concept. In *Wandlungen und Symbole der Libido* (Transformations and Symbols of the Libido), published in 1912, Jung formulated definitely the difference between his and Freud's basic concepts. It was this difference that caused the break between them. Already in this book, which was published in English under the title *Psychology of the Unconscious*, there is clearly contained, in nuclear form, Jung's own psychology.

Jung had on various occasions described his psychology under the 3 major aspects of *Erlebnis*-, *Verstehende*- and *Komplex*-Psychologie (self-experience, understanding, and complex-psychology).

The *self-experience* aspect has to do with the most basic factors: the human psyche is not a secondary sphere of reality compared with the outer world or the body; it is as real as the latter. To experience the psyche in this way, another kind of experiencing is necessary than that applied by our present experimentally-oriented psychology. Jung rejects the differentiation of introspective and experimental verification. Self-experience psychology is an objectivized self-observation as objective as any other scientific method. Self-experience psychology widens the sphere of psychology to the infinite on the one hand, and on the other it establishes an autonomic psychological energy concept, the first postulation of which is the individual psyche as a closed energy system. For most American psychologists, Jung's self-experience psychology is incomprehensible. But some, like Henry A. Murray and William Douglas, who have made serious attempts to comprehend and to train themselves in this psychological approach, have come to the conclusion: "If you have wrestled with Jung you are never the same again" (5).

The *understanding* aspect of Jung's psychology is that of an increased empathy which does not describe and explain only, but rather analyzes the inner dynamics and the causes of psychological factors and events. At the time when Jung was defending Freud against his critics, he demanded that one first be able to "think as Freud thinks" before rejecting him. This illustrates

what Jung means by "understanding." Jung's "understanding" has become the basis for his frequently acknowledged most sensitive approach to psychopathology, as well as to the formulation of his typology. It has been, finally, the basis of the attempt to "understand" the forces empowering Nazism and the characteristics of the Jewish mentality that arouse anti-Semitism. Both of these attempts to help by finding ways to "understand" have been misunderstood and condemned.

Jung's *complex* psychology grows out of the *self-experience* and *understanding* aspects. The self-experience theory opened the way to a multitude of psychological facets which were applied not only to the differential details of his typology but to the differential aspect that has frequently been denounced as mysticism—as, for instance, his concept of the "shadow," of "animus" and "anima," of "introvert" and "extravert," and so forth. From Jung's theory of *complex* psychology result, further, his concepts of the subconscious, the archetypology, and the collective subconscious. To see Jung as a reviver of antique, primitive, and medieval religious concepts because he studied and wrote widely on the subject, for instance, of alchemy, is to misunderstand him. These studies were presented for comparative and explanatory purposes. Jung saw, in his *self-experience* and *complex-psychology*, psychological factors similar to those at issue in the anthropological and religious spheres, and he tried to make himself understood by applying them in an analogical way. This "historical" method is not new: the Freudians applied it in their Oedipus Complex, and it has been used in every phase of anthropological interpretation.

Jung has been most unfortunately misunderstood by those who accused him of wanting to revive religion to replace modern scientific experience. Jung in fact only pointed out that religion is a basic form of human experience not properly understood even by many who are consciously or unconsciously deeply involved in it. Jung saw it as a major task of his psychological approach to clarify this involvement and thereby try to solve the severe psychological and psychopathological problems connected

with religious involvement. He never preached any religion, but one is made soundly aware of the real role of religion by applying his concepts. Recently I met a prominent Indian at an event at the United Nations who expressed the opinion that too much is said about religious freedom in America, where, he said, there is actually less religious freedom than anywhere else in the world. In his own way, this Easterner was expressing Jung's view that collective powers impose taboos that hamper the individual in achieving insight into decisive factors of his very existence and self-control. Indeed Jung emphasized that mental health depends on psychological awareness of and independence from collective subduing powers. All of American communal life suffers most seriously because of this factor.

Jung's work proceeded along two lines which on one hand are deeply connected and on the other are far apart in aim. The one was that of the psychiatrist and psychological healer, the other that of the psychological educator, or, as we might call it on this side of the ocean, the mental hygienist. At about the time that he broke with Freud, Jung also separated himself, although not as dramatically, from his teacher and friend Eugen Bleuler. Bleuler had achieved his fame with his remarkable phenomenological description of psychopathological somatic pictures. Against this Jung contended that psychopathology should be viewed first and last as a deviation of a normal psyche, a pathological process in which cause, beginning, and end should be viewed always as a singular phenomenon, as they appear in an individual patient. Originally much involved in Bleuler's schizophrenia interests, Jung later more and more enlarged his horizon. He told me once, "There should be a system of deviations of the normal, which alone could give a proper basis to psychiatry." It is most unfortunate that he never presented such a system of psychopathology.

Jung apparently considered the second of his psychological tasks, the educational, as the more important. The major part of his writing was devoted to education in psychology. He once explained to me that he believed his most important insight was his

recognition of modern man's need of proper psychological education. At the center of all major religions, including early Christianity, is the care and development of the individual's mind and its guidance through life. Modern religion has little concern for these matters, and this is a major reason for the confusion and mental pathology of modern man. Jung saw as the great task of modern psychology—scientific in the sense he understood it—the development and guidance of man's mind. At the center of this mental health approach was Jung's concept of *individuation*. What to earlier religion were maturation and initiation procedures and rites, Jung formulated as a process of self-development and completion of the regulating of the individual's relationship to his collective ties. On thus completing the development of one's personality also depends, of course, the individual's mental health. Because of the similarity of this individuation psychology to the initiation procedures of earlier ages, it appears justified, as has been done, to describe Jung's psychology as a modern initiation psychology.

Although Jung wrote more than 50 books and several hundred papers, one cannot get over a feeling of incompleteness in this gigantic life work. The reason for this is that Jung never drew together the major aspects of his teaching. In this connection an account of my last personal meeting with him in Europe is relevant. The meeting occurred in the fall of 1935, just prior to my final departure for this country. I was then employed, in the capacity of editor, by the publisher of most of Jung's work, who had begun the publication of a library of the basic philosophies of the major scientific fields. Included in the planned volumes was one on psychology, which we felt only Jung should write. Besides, this would provide the occasion, finally, for Jung to write a systematic presentation of his psychology, which most of those who followed his thinking felt was sorely needed. I was given the task of convincing Jung, if possible, to agree to the plan. Time was limited, Jung was then at his country place on upper Zurich Lake. He agreed to a conference, and I was asked to meet him at the nearest railroad station. The day of the meeting was a day of Swiss "land-rain," and it was decided that

instead of going to the country place we would have our conference over a glass of wine in the railroad restaurant. I was well prepared in my mind for my diplomatic mission. I entered upon a long introduction and went into great detail about the need for the book. Jung listened attentively in his kindly way, asking one-word questions here and there while he drew geometric figures on the white marble table between us. When I thought I had completed my plea, I waited in silence. From the increasing strain visible in Jung's face I knew that he was moved by my urging and concerned as to his answer. He spoke for more than half an hour. He emphasized how slowly he had proceeded to formulate his concepts, how long it had taken to work out this or that aspect, how little he had actually completed, and how much was still to be done.

With an almost pained expression, he finally rose : "I am sorry I cannot do what you ask. To complete this psychology would take more than a lifetime." He drew his raincoat tightly around his shoulders and walked away into the rainy night. Jung died last summer, 85 years old. He had left no systematic presentation of his work, only a gigantic fragment.

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PSYCHIATRIST-PATIENT PRIVILEGE: THE GAP PROPOSAL AND THE CONNECTICUT STATUTE

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Within the past year, three events have focused the attention of psychiatrists and lawyers upon the problem of confidentiality. The first was the visit voluntarily paid by a psychiatrist in the District of Columbia to the House Un-American Activities Committee to report the details of disclosures made to him by his patient, a federal employee who had recently defected to the Soviet Union. Those details were promptly reported in the press and included information on the homosexual habits, family quarrels and religious beliefs of the defector, albeit not a word about his plans to defect (1, 2). The second was a report by the Group for the Advancement of Psychiatry finding inadequate existing protection of the confidences of psychiatric patients and proposing a model statute (3). The most recent was the enactment in Connecticut of the first statute dealing in detail with "privileged communications" between a patient and his psychiatrist.² In the attempts of the Connecticut and the GAP statutes to set the appropriate limits of confidence in our society, and at the same time to quiet the kinds of fears brought to the surface by the testimony before the congressional committee, a number of issues are raised which deserve sustained consideration by the medical and legal professions.

The issue of confidentiality is ordinarily considered by lawyers under the heading of "privileged communications." A person whose communication is "privileged" is authorized to keep that communication from judge, jury or grand jury, even in the face of a subpoena demanding disclosure. This "privilege" is rarely conferred and then only to specially situated persons who become instruments of a larger social policy.

For example, confidential statements by a husband to his wife are protected from disclosure because it is considered important that married persons be completely free to communicate with each other. Confidential statements by a client to his attorney are shielded from subsequent inquiry because it is assumed that the attorney's function is important and that he can perform it effectively only if his client is assured that his communications will be classed as confidential. The same rationale underlies the privilege which has been recognized for a number of other professional relationships. In each of these—attorney-client, priest-penitent and physician-patient, a privilege is conferred upon the person coming to the professional relationship because it is assumed that the function performed by the professional would be seriously impaired if the cloak of confidentiality were removed.³ The question raised by both the GAP and Connecticut statutes is whether the relationship between a patient and his psychiatrist is another one in which society's interest in preserving confidentiality outweighs its interest in "getting the facts." In short, should the patient be given control of the non-psychiatric uses to which his statements might be put?

To answer these questions, it is important to bear in mind that legal recognition of "privilege" deals only with part of the prob-

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² The Connecticut bill, S.B. 720, was introduced by Senator Finney on March 15, 1961. After enactment by the Legislature, it became Public Act 529 and was signed by Governor Dempsey on June 21, 1961. It will become effective October 1, 1961.

³ Professor Wigmore has left us the classic formulation of the 4 conditions which must be satisfied in order to warrant creating a class of privileged communications whether by case law or by statute: 1. It originates in a confidence; 2. The maintenance of that confidence is vital to achieving the purposes of the relationship; 3. The relationship is one that should be fostered; 4. The expected injury to the relationship, through fear of later disclosure, is greater than the expected benefit to judicial administration of forcing breach of the confidence (4, 5). There is a good deal of controversy in the legal literature regarding the desirability of recognizing privilege in some of the relationships. Since our purpose in this piece is principally expository, we shall not enter the lists on these more general questions.

lem of confidential communications. Though it authorizes the patient to keep his psychiatrist from testifying in an ongoing legal proceeding, it affords only limited protection in the pre-legal or non-legal setting.⁴ In such settings, the patient expecting protection of his confidences must look principally to the psychiatrist's professional ethics. And this remains true whether or not the particular jurisdiction treats the communications as "privileged," simply because neither the patient nor a lawyer nor a judge is present in those settings to check the statements of the psychiatrist.

The ethical psychiatrist, for example, would not, without the patient's consent, speak of the patient's condition to a stranger, or to the insurance investigator inquiring into the patient's medical history, or to the FBI agent seeking evidence of the patient's guilt of crime. Violation of this ethical obligation might lead to the imposition of sanctions against the psychiatrist by the profession itself. Thus, at the time the disclosures are being made by the patient to his psychiatrist, there is a promise of confidentiality, even without legal recognition of privilege. And that promise will ordinarily be honored, at least until such time as a dispute arises between the patient and the state (as in the criminal case), or between the patient and another individual (as in the insurance claim or in a divorce or a negligence case).

When the fateful dispute arises, it may bring with it a conflict between the professional ethic, requiring confidence, and society's legal system, demanding disclosure. The patient may have admitted to his psychiatrist that he killed; or that he committed adultery, or that he filed a fraudulent claim for negligence. Should the lawyer for the opposing party be permitted to summon the psychiatrist before a grand jury or to a deposition hearing or to the trial itself to learn whether or not the patient had made such statements? If the answer is "no", then the patient is invested with a "privilege" and his confidence is respected, but at a price to the state, which may be unable to prove guilt without the admission; or to the party sued, who may find himself parted

from much of his wealth because he could not prove the claim to be fraudulent; or the person suing for divorce because he cannot prove his wife's adultery.

Society could tolerate such an interference with its processes of resolving disputes only if it were reasonably clear that other more important objectives were being served by non-disclosure. Here, the "other" objective is, of course, the effective treatment of mental illness. Is a person seriously in need of treatment likely to be deterred from seeking it when he learns his disclosures will be protected only until a demand is made for them in an official proceeding? Can one generalize sufficiently about the characteristics of patients and prospective patients to say with any assurance how many will be deterred from communicating as freely as they would if they were assured of complete confidentiality? Will legal recognition of "privilege" affect the just resolution of enough disputes to warrant ignoring the impact of the absence of confidentiality?

While none of these questions can be answered conclusively, the overwhelming view of psychiatrists is that patients need and expect assurance that their disclosures will remain confidential. The patient, however much in need of treatment, is ordinarily reluctant to seek it. This reluctance is traceable not only to the anticipated stigma but also to the tendency of persons considering treatment to see themselves in the worst possible light. Their antisocial impulses, abetted by an inability clearly to differentiate between phantasy and reality, may become magnified beyond all reasonable proportion. Even under optimum conditions of confidentiality, it is difficult for the patient to confide his thoughts and feelings to another person. If to that difficulty is added the possibility of disclosure at some future date, it can be expected that he will not speak freely and that his concern about the other implications of treatment will be reinforced.⁵

⁴ The existence of a privilege does lend support for a suit for damages if the confidence is breached by the psychiatrist in the extra-legal setting.

⁵ Such concerns may be even more prevalent among persons in lower socio-economic groups, who are most difficult to reach in psychiatric treatment. Such persons tend to be more than ordinarily suspicious of authority figures and of the prospect that their disclosures will be used to their disadvantage (6).

Once in treatment, it is even clearer that all patients would be affected by the absence of confidentiality. Every person, however well-motivated, has to overcome resistances to therapeutic exploration. These resistances seek support from every possible source and the possibility of disclosure would easily be employed in the service of resistance. At best, the possibility of disclosure will prolong treatment; at worst, it will make thorough exploration of emotional conflicts impossible. If it should become known that there is no privilege, and it would take only one sensational case to accomplish this, it is probable that a great many patients will be deterred from coming to treatment or from participating effectively in treatment. Treatment of the mentally ill is too important, and the assurance of confidentiality too central to it, to risk jeopardizing the whole because of the relevance of some patients' statements to some legal proceedings.

Despite the significance of the problem, the existing legal protection of disclosures from patient to psychiatrist is far from satisfactory (7, 8, 9, 10, 11). Though 30-odd states protect psychiatric patients under statutes creating a physician-patient privilege, some problems remain even in those states. For example, in some places the physician-patient privilege is not recognized at all in criminal cases. In others, there is a substantial question whether persons who treat mental and emotional disorders are engaged in the "practice of medicine" and hence "physicians." In yet others, the conditions under which the privilege ends, or is "waived," are uncertain. In the remaining 20 states which have no physician-patient privilege, there is no legal protection for the psychiatric patient.⁶ In these states, the psychiatrist, confronted with a subpoena commanding him to testify, faces a very real dilemma. If he furnishes the information, he will usually violate the ethics of his profes-

sion. If he refuses, he faces the risk that he will be held in contempt of court.

GAP concluded that it was unreasonable to leave the psychiatrist in a non-privilege state to face his dilemma alone, or to expose his patient to the risk that secrets would be exposed by a psychiatrist who refuses to go to jail in defense of his professional ethic. GAP set about to find the appropriate model statute to serve both the states which have no privilege at all and those whose physician-patient statute is unsatisfactory. In the course of its deliberations, it chose not to urge adoption of an improved physician-patient privilege statute. Instead, GAP decided to separate out the problem of privilege for patient and psychiatrist, first, because lawyers have vigorously opposed the physician-patient privilege (13), and second, because it saw the psychiatrist-patient relationship as more uniquely adapted to the concept of privilege than that of the physician and his patient. In this, GAP was unquestionably right. Though "many physical ailments might be treated with some degree of effectiveness by a doctor whom the patient did not trust, . . . a psychiatrist must have his patient's confidence or he cannot help him" (14).

Precedent for a more precise model was limited. Only one state, Georgia, had explicitly created a privilege for "communications between psychiatrist and patient" (15). No guides had, however, been set by statute, the extent of the protection being left to case-by-case determination by the courts.⁷ Six states had followed a somewhat different approach in a closely related area, that of communications between a psychologist and his client. These are protected "on the same basis as . . . [confidential communications] between attorney and client".⁸ It was this model which GAP followed. It concluded its report on the subject with a "model statute":

⁶ There is the single exception of Illinois where a trial court upheld the claim of privilege by a psychiatrist summoned to testify in a divorce case (12). The judge based his action upon the application of common law principles of "privilege" to the new professional relationship. Unfortunately, the case did not go on to a higher court, so that there is no authoritative pronouncement on the subject.

⁷ The Georgia statute reads in its entirety: "There are certain admissions and communications excluded from consideration of public policy. Among these are: 1. Communications between husband and wife. 2. Between attorney and client. 3. Among grand jurors. 4. Secrets of state. 5. Psychiatrists and patient" (15).

⁸ The states are Arkansas, Georgia, Kentucky, New York, Tennessee, Washington. The statutes are collected and discussed in detail (16).

The confidential relationship and communication between psychiatrist and patient shall be placed on the same basis as regards privilege, as provided by law between attorney and client" (3).

The GAP bill gives to the psychiatric patient whatever it is the lawyer's client now has (5). Such an approach is disarmingly simple. It begs question after question about the appropriateness of case law built for the legal setting when transposed to the psychiatric one. Quite obviously, each relationship has its own unique problems and characteristics—and case law sufficient to serve the needs of a client and his lawyer regarding confidentiality might be hopelessly inadequate for the patient in treatment.⁹

The GAP statute suggests a host of problems which call into question the appropriateness of the attorney-client model. Who is to be classed as a psychiatrist? The attorney-client privilege affords no guidance since attorneys are licensed by the state while psychiatrists are licensed simply as physicians. Are communications from members of the patient's family protected? The law of attorney-client privilege would ordinarily answer in the negative. Yet virtually all psychiatrists would deem it essential to effective treatment that the patient's family be assured its disclosures would be treated as confidential. What of communications to clinical psychologists and social workers, who play so large a part in psychiatric diagnosis and treatment? There is precedent for treating as "privileged" the communications made by a client to the "agent" of an attorney, but the law on the subject is by no means clear. There is little assurance that it will be applied to protect disclosures to non-psychiatrist treatment personnel. When can the privilege be said to be waived or terminated? Does it end, for example, when the patient discloses to his psychiatrist his intention to commit a crime—e.g., that he plans to kill his wife? Under the cases con-

struing the attorney-client privilege, there is what is known as the "future crime or fraud" exception, which treats the obligation of confidence as ended when the conversation takes such a turn. If a death results, the psychiatrist could then be subpoenaed to testify regarding his patient's incriminating statement. Yet one of the very things psychiatric treatment strives for is the elicitation of such material, on the assumption that less harm will ensue if it is ventilated than if it remains suppressed. One well-publicized disclosure by a psychiatrist of material of this kind could do incalculable harm to the cause of treatment.

The range of questions likely to arise suggests fairly clearly the importance of laying down some guides so that patient, psychiatrist and court may know, with reasonable accuracy, when the privilege begins and when it ends. Such guides should, of course, be flexible enough to permit accommodation to unanticipated problems. But they should embody principles designed to assure, as much as words can, that accommodations will be made along satisfactory lines.

It was this approach which was ultimately adopted by the committee formed under the auspices of the Connecticut District Branch of the American Psychiatric Association and of the Connecticut Mental Health Association. The committee was headed by Dr. Harold Wright of Greenwich and consisted of members of the district branch and lawyers from the community and the Yale Law School.¹⁰ Its objective was to secure the enactment of legislation creating a psychiatrist-patient privilege in Connecticut. At the very outset of its deliberations, the committee accepted the GAP view that the privilege should be extended at this time only to the psychiatrist-patient relationship. The reasons varied: for some this represented a decision on a matter of principle; for others it was a concession to the political requirements of the situation. Though most members of the com-

⁹ That GAP had in mind the possible desirability of a more specific statute is indicated by the footnote it appended to its proposed statute. It said there: "If in some jurisdictions the attorney-client privilege contains provisions not applicable to the psychiatrist-patient privilege, this will have to be considered in the drafting of the specific patient-psychiatrist statute" (3).

¹⁰ The committee was appointed by Mrs. Richard B. Brown, President of the Connecticut Association for Mental Health. Its members were: Dr. Harold Wright, Chairman, Dr. Leo Berman, Dr. John Donnelly, Professor Abraham S. Goldstein, Miss Frances Harteshorne, Dr. Jay Katz, Dr. Duncan Stephens, Mr. Morris Tyler.

mittee had originally expected to use the GAP statute, it was quickly agreed that a more detailed statute was needed. Such a statute was drafted and subsequently introduced in the State Senate by Senator Finney of Cos Cob, Connecticut. After an extended hearing before the Judiciary Committee of the Connecticut legislature and a good deal of skillful management by Senator Finney, the bill was reported favorably and was enacted into law, substantially as proposed.

The Connecticut statute is divided into 3 sections : the first creates the privilege ; the second defines the principal terms used ; the third sets out the conditions under which the privilege ends. It provides, in full :

§ 1. *Psychiatrist-Patient Privilege.* In civil and criminal cases, in proceedings preliminary thereto, and in legislative and administrative proceedings, a patient, or his authorized representative, has a privilege to refuse to disclose, and to prevent a witness from disclosing, communications relating to diagnosis or treatment of the patient's mental condition between patient and psychiatrist, or between members of the patient's family and the psychiatrist, or between any of the foregoing and such persons who participate, under the supervision of the psychiatrist, in the accomplishment of the objectives of diagnosis or treatment.

§ 2. *Definitions.* As used in this act, "patient" means a person who, for the purpose of securing diagnosis or treatment of his mental condition, consults a psychiatrist ; "psychiatrist" means a person licensed to practice medicine who devotes a substantial portion of his time to the practice of psychiatry, or a person reasonably believed by the patient to be so qualified ; "authorized representative" means a person empowered by the patient to assert the privilege and, until given permission by the patient to make disclosure, any person whose communications are made privileged by § 1 of this act.

§ 3. *Exceptions.* There is no privilege for any relevant communications under this act

(a) when a psychiatrist, in the course of diagnosis or treatment of the patient, determines that the patient is in need of care and treatment in a hospital for mental illness ;

(b) if the judge finds that the patient, after having been informed that the communications would not be privileged, has made communications to a psychiatrist in the course of a psychiatric examination ordered by the court, *provided* that such communications shall

be admissible only on issues involving the patient's mental condition ;

(c) in a civil proceeding in which the patient introduces his mental condition as an element of his claim or defense, or, after the patient's death, when said condition is introduced by any party claiming or defending through or as a beneficiary of the patient, the judge finds that it is more important to the interests of justice that the communication be disclosed than that the relationship between patient and psychiatrist be protected."¹¹

No attempt will be made here to comment in detail on the Connecticut proposal. We shall merely point to its principal features.

Section 1 makes the privilege applicable to all official proceedings to which the patient's communications might be relevant. It protects the patient from the disclosure without his consent, of the communication made by him or by members of his family to the psychiatrist and to those who assist him in diagnosis or treatment. Communications to clinical psychologists and social workers working with psychiatrists would, therefore, clearly be included.¹² On the other hand, the requirement that the communication relate to diagnosis or treatment leaves unprotected any communications made to a psychiatrist involved in a personnel screening program.

In section 2, the psychiatrist is defined to include not only the physician who has been certified by the American Board of Psychiatry and Neurology, but also the physician,

¹¹ A fourth section provided : "No comment upon the exercise of the privilege shall be made at trial nor shall any adverse inferences be drawn from such exercise." This section was stricken by the Judiciary Committee of the Connecticut legislature. The stricken section was believed to be declaratory of the construction courts would probably give the statute. Though there is a basis for taking a different view, derived from some decisions dealing with the privilege against self-incrimination in Connecticut, those decisions would appear to have little relevance to the psychiatrist-patient relationship. All confidences are sought to be protected under the latter, not only incriminating ones or ones from which "adverse inferences" could be drawn.

¹² There was discussion in the committee of extending "privilege" to psychologists who engage in the independent practice of psychotherapy. Some favored such an extension. Others thought it would go too far. Yet a third group felt it would make obtaining support for the bill more difficult and therefore urged postponement of a decision on the matter.

who, though not certified, is engaged in the practice of psychiatry. "Psychiatrist" also includes, in the interests of the patient whose confidences are in issue, those persons who are "reasonably believed by the patient" to be psychiatrists.¹³ Moreover, under this section, it is made clear that the privilege is the patient's and that its protection may not be waived by the persons in whom he places his confidence, unless he has given permission to make disclosure.

Section 3 deals with that most difficult of problems—the point at which it can be said that the value of preserving confidentiality is outweighed by the interest of society in gaining access to the protected communications. After a great deal of discussion, and considerable compromise, our committee agreed upon 3 general situations in which the privilege was to be treated as terminated. In the committee's view, these exceptions dealt successfully with the overwhelming majority of problem situations.

The first authorizes a psychiatrist to end the privilege when he determines that his patient needs hospitalization. It is intended to deal with the situation in which it becomes necessary to institute commitment proceedings. Such an exception is essential if the psychiatrist is to perform his role which will, in some instances, require that he use the material supplied by the patient as a basis for hospitalization. There is, however, a restriction on the exception. Only those communications may be disclosed which are *relevant* to the commitment proceeding in which he is asked to testify.¹⁴

The second exception deals with the situation, in civil or criminal cases, in which a person is ordered by the court to submit to an examination. This may occur, for example, when a patient claims damages for a mental illness caused by X or when a complaint of sexual molestation is made against X by a patient. In such cases, X may request that the patient (now the plaintiff or complaining witness) be examined by a psychiatrist and an examination may be ordered by the court. Under such circum-

stances, there would be no protection for the statements made in the course of the examination. It is arguable that such an exception need not have been included in this bill because a patient examined under such circumstances is not consulting a psychiatrist "for the purpose of securing diagnosis or treatment of his mental condition." Nevertheless, it is entirely possible that, if such examination should continue over a period of time, the person examined may not realize the extent to which his statements to the psychiatrist may be made public. To remove any doubt, our committee decided to end the privilege only if the person being examined knew what was transpiring, and if the information elicited would be used *solely* for its bearing upon the patient's mental condition.

The third exception proceeds on the assumption that the patient should not be permitted to plead mental illness in civil cases and at the same time be permitted to conceal evidence relevant to that condition. The most obvious illustration is the patient who has a history of psychiatric treatment and who sues for compensation for a new psychiatric disability allegedly caused by the defendant. Under the Connecticut bill, such a patient would find that he had "waived" his privilege if 2 important conditions were satisfied: 1. The questions asked of his psychiatrist must deal with communications which are "relevant" to the current proceeding; and 2. The trial judge must conclude, after a discussion specifically directed to the matter, "that it is more important to the interests of justice that the communication be disclosed than that the relationship between patient and psychiatrist be protected."

It should be noted that our committee deliberately chose not to write a "future crime" exception into the bill.¹⁵ Its mem-

¹³ For precedent in the attorney-client setting, see(5).

¹⁴ An alternative formulation of this exception might be as follows: "(a) in a proceeding for commitment of the patient to a mental hospital."

¹⁵ This is to be distinguished from the question of obligation to inform the police of an expected crime. There is virtually no law on that subject (17). There is sometimes said to be an obligation to disclose a crime already committed, but this does not hold when the knowledge is acquired in a privileged relationship. Occasionally, statutes are found requiring that certain described incidents be reported to the police. And, of course, when the communication does not relate to "diagnosis or treatment," it will not be classed as privileged.

bers were persuaded that, as a class, patients willing to express to psychiatrists their intention to commit crime are not ordinarily likely to carry out that intention. Instead, they are making a plea for help. The very making of such pleas affords the psychiatrist his unique opportunity to work with patients in an attempt to resolve their problems. Such resolutions would be impeded if patients were unable to speak freely for fear of possible disclosure at a later date in a legal proceeding.

The enactment of the Connecticut statute should give real impetus to the efforts of GAP to spark legislation creating a psychiatrist-patient privilege. Not only does it represent a more detailed development of that privilege than has yet appeared in any jurisdiction; it affords greater protection than does the GAP proposal. Yet its specificity should go a long way towards allaying the fears of lawyers and laymen as to the circumstances under which the privilege can be said to begin and end. Even more important, by defining the relevant issues more precisely than has previously been the case, it should lead to a refinement of thinking on the relation of confidentiality to treatment, and on the kinds of social interests which call for an end to confidence.

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CLINICAL NOTES

(The Clinical Notes report the findings of the authors and do not necessarily represent the opinions of the Journal.)

THIORIDAZINE (MELLARIL) ON REGRESSED SCHIZOPHRENIC PATIENTS¹

ODIE T. UDDYBACK, M.D., AND CALVIN H. CHEN, M.D.²

In any large mental hospital, there are always some regressed schizophrenic patients who resist all forms of treatment, including the usual somatic therapies and tranquilizers. The management of these patients presents a real problem and challenge to the psychiatrist. Hence we decided to study their response to a newer drug, thioridazine (Mellaril),³ which had demonstrated its usefulness on patients in our Children's Service.

Twenty-nine male regressed schizophrenic patients between the ages of 21 and 58 years were selected. Of these, 22 were classified as chronic undifferentiated, 2 as catatonic, and 5 as paranoid type. Their symptoms consisted of extreme neglect of personal appearance, withdrawal, catatonic posturing, hallucinations, delusions, and occasional agitation or combativeness. Eight of them had been hospitalized for over 20 years, 7 from 11 to 20 years, and 14 from 1 to 10 years. All of them had had somatic, occupational, milieu, and drug therapies without lasting improvement. Immediately before this study, 23 patients were on chlorpromazine (Thorazine), 5 on trifluoperazine (Stelazine), and 1 on imipramine (Tofranil). Another 29 schizophrenic patients in the same building with comparable chronicity and degrees of regression were selected as controls.

For the experimental group, all tranquilizers and the psychic energizers were

discontinued. Complete blood counts, urinalysis, and thymol turbidity tests were done. Then they were started on 100 mg. of thioridazine t.i.d. for 10 weeks. Observations were made weekly to detect any changes in behavior and thought content. The laboratory tests were repeated between the fourth and eighth weeks of therapy. The management of the control group was identical except that their tranquilizers, namely, chlorpromazine and trifluoperazine, were not changed to thioridazine.

RESULTS

Signs of improvement were observed during the first week. They consisted of an increase in interest, cooperation, sociability and affect, and a decrease in hallucinations and delusions. The improvement continued until the end of the study with one patient being placed on convalescent status and two patients transferred to open wards. Of the 29 patients placed on thioridazine, 6 were considered markedly improved, 5 moderately improved, and 1 slightly improved. Upon cessation of thioridazine therapy, all except one soon reverted to their original conditions.

No toxic effects were noted clinically. Laboratory tests revealed no abnormalities except a single case of leukopenia which disappeared promptly after thioridazine was stopped.

The control group did not show any improvement throughout the study period.

CONCLUSIONS

The improvement of patients under thioridazine therapy is considered significant in view of the severity and chronicity of their illness and their failure to respond to all previous therapies. An important ad-

¹ Read at the semi-annual meeting of the Michigan Association of Neuropsychiatric Hospital and Clinic Physicians, Kalamazoo, Mich., Oct. 26 and 27, 1961.

² Respectively, Resident Psychiatrist and Director of Psychiatric Education and Research, Northville State Hospital, Northville, Mich.

³ Thioridazine (Mellaril) was supplied by Sandoz Pharmaceuticals.

vantage of thioridazine over chlorpromazine and trifluoperazine is the low incidence of side effects. Because of the results

obtained, we feel that further trial of thioridazine (Mellaril) on regressed patients is warranted.

CEREBRAL AUTONOMIC IMBALANCE

J. P. CRAWFORD, M.D., M.R.C.P.¹

There is clinical and experimental evidence to suggest that there are efferent tracts of nerve fibres arising from certain hypothalamic nuclei and ascending to reach the cerebral cortex before being relayed downwards again, and that these fibres play an autonomic role within the hemispheres similar to that of established efferents which are known to descend from similar nuclei to the spinal cord before turning upward, for example, in the cervical sympathetic chain.

Martin(1) of the National Hospital, Queen Square, London, without specifying anatomical detail, suggested on clinical grounds that the hypothalamus played a vegetative role to maintain the metabolism of the cells of the cortex and to see that energy was provided for cortical activity. Electroencephalographic evidence of this activity, Bremer(2) suggested to be a sign of "tonus" in the cortex, the oscillating potentials of the alpha rhythm indicating fluctuations in excitability at the cortical synapses, rather than discharge, and the writer(3) has compared such "tone" in the conscious sensorium to that in the motor system when a person is awake as opposed to asleep.

Schuchardt(4) of the Anatomical Institute at Giessen has also suggested that the role of the postulated ascending efferents was a vegetative one, that is to say that the cerebral cortex is as much peripheral to the hypothalamus in this respect as is the spinal cord in the opposite direction. When it is recalled that Fulton(5) concluded, partly from the work of others, that the "posterior hypothalamic area" must be considered a sympathetic entity and anterior nuclei such as the paraventricular and supraoptic a parasympathetic group, details of the pat-

tern under consideration begin to take shape. Fulton's conclusions refer to descending efferents which have many secondary relay stations in tegmentum and medulla before reaching the preganglionic sympathetic fibres in the lateral horns of grey matter in the cord; but there is experimental evidence to support the view that the postulated ascending efferents, doubtless with many secondary relay stations in the basal ganglia and other cerebral grey matter, reveal functional subdivisions which may also be classified as sympathetic and parasympathetic.

Thus Gellhorn(6) recalls that excitation of the posterior hypothalamus, either directly or reflexly, causes a diffuse hypothalamic-cortical discharge associated with an arousal reaction, and he states that changes in the excitability of the hypothalamus and alterations in the hypothalamic balance produce parallel changes in the sympathetic downward discharge and in the hypothalamic-cortical discharge. Moreover he goes on to say that in addition to the diffuse excitatory action on the cerebral cortex of the posterior hypothalamus and reticular formation, inhibitory effects can be obtained by stimulation of the intralaminar and other related nuclei in the thalamus and by stimulation of the caudate nucleus. In man, in fact, stimulation of the caudate nucleus has produced a change in the state of awareness, somewhat resembling sleep, but with dilatation of the pupils as Peacock(7) confirms, and sleep-like states have long been known to follow destruction of the posterior hypothalamus as Meyer(8) has reviewed when discussing excitement related to anterior lesions.

Despite the title of his work, Gellhorn did not conclude that the excitatory and inhibitory effects he recalls might be equated with sympathetic and parasympathetic

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entities, and it seems to have been left to me(9) to do so, and to draw attention to the close relationship seeming to exist between the reticular formation of brain, brainstem and cord and the vegetative core, in a sort of central nervous reticular autonomy. Reference has not yet been made here to the other hypothalamic nuclei, such as the lateral and medial groups, which Fulton also considers exhibit activity capable of being interpreted in autonomic terms at the periphery; but these details may require almost as much further work as is still required for the adequate anatomical demonstration of the postulated ascending hypothalamic-cerebral efferents.

The functional significance of the arrangements outlined, I suggest, is that they make it possible to consider psychological as well as somatic aspects of disturbances of mood and consciousness in terms of autonomic balance, and this provides a useful framework within which the modern chemo- and psychotherapy of these disorders may be understood and rationally applied. A pure sympathetic discharge in psychological and somatic terms is seen only in uninhibited action, whether this be fight or flight. Absence of mood is then accompanied by strong rapid heart beat, high blood pressure, vasodilatation more in muscle and brain than skin and viscera, suspended motility of stomach and intestine, wide opening of air passages to the lungs, release of liver sugar and dilatation of the pupil. A pure cranial parasympathetic dis-

charge on the other hand would appear to be represented by physiological sleep with its small pupils, low blood pressure, bradycardia and absent reflexes as seen in the inhibitory response of Pavlov's dogs to an accepted stimulus when this was no longer followed by the conditioned or expected reward. All states other than uninhibited action and sleep exhibit mixed sympathetic-parasympathetic features; depression for example may be accompanied by both constipation and tears. Such states may result from endogenous disturbance to the autonomic core or from conflict in the conscious sensorium which it supports.

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IMPROVING INSULIN THERAPY WITH CALCIUM GLUCONATE

IRVING D. ROSENBERG, M.D.¹

One of the difficulties in insulin coma therapy is that convulsions occasionally occur(1). At one time it was felt that the hypoglycemia convulsion was a desirable effect of insulin, but it is known now that the hypoglycemic coma is more effective and less dangerous than the convulsion. Fracture, intracerebral hemorrhage, and cardiovascular complications(2) can occur

during the convulsions. Fortunately, these are frequently preceded by a warning stage of muscular twitching which becomes progressively more severe until it becomes a generalized clonic-tonic-clonic seizure similar to the convulsion induced by Metrazol or Indoklon(3). Therefore, during insulin therapy any patient showing the characteristic twitching is "terminated" (i.e., given glucose or sucrose) soon enough to prevent the convulsion. This helps to prevent com-

¹ 44 Maple Ave., Morristown, N. J.

plications but has two disadvantages: the patient may show the characteristic twitching so soon in his coma or even before he becomes unconscious, that the administration of sucrose at that time eliminates any benefit that he would otherwise get from the treatment.

The problem therefore is how to prevent the convulsion or delay it long enough to allow the patient to have a hypoglycemic coma of satisfactory depth (as indicated by the lack of a well-coordinated muscular response, or complete lack of response to painful stimuli) and of satisfactory duration (1 to 2 hours of coma after the first few treatments) (4).

The usual procedure at the New Jersey State Hospital at Greystone Park until recently was to give an anti-convulsant, Dilantin, 3 gr. by mouth at bedtime on the night before and 3 gr. by mouth one hour after the insulin injection. If the patient still continued to twitch severely or to have sudden convulsions a sedative, Seconal, 1½ gr. by mouth was added. Occasionally, however, convulsions and severe twitching persisted in spite of this routine, and the patient would repeatedly have to be "terminated" too soon or would have to be taken off insulin therapy altogether. Therefore, some patients never recovered from their schizophrenic episode as completely as could have been expected with an adequate course of insulin or of insulin combined with electroshock (5).

Recently, the similarity was noticed not only between hypoglycemic convulsions and hypocalcemic convulsions, but also between hypoglycemic twitching and hypocalcemic tetany. Two serum calcium determinations made during hypoglycemic twitching, however, failed to show the low calcium levels expected. Nevertheless, calcium gluconate (10 cc. of a 10% solution) injected intravenously (immediately after the withdrawal of the blood on which the calcium determinations were made) stopped the muscular twitching completely within 5 minutes in both patients. It was postulated therefore that, because of an increase neuromuscular threshold for calcium during hypoglycemia (possibly related to an increased pH of the blood), there is a *relative hypocalcemia* in those patients who con-

sistently show hypoglycemia twitching or convulsions.

With this observation in mind, Dilantin and Seconal were omitted in those patients who had been receiving it routinely, and calcium gluconate was given orally one hour after the injection of insulin. Ten females and 7 males who twitched consistently during insulin treatments were given the calcium in a dose of 2 or 3 gm. for the females and 2 gm. for the males. This is well below the average dose of calcium gluconate (15 gm. daily in divided doses), of which the only significant contraindication is the concomitant use of digitalis (6). During this preliminary experiment, only 4 of the females and 6 of the males showed any twitching at all, a reduction of almost 50%. Subsequently, the dosage was raised to 3 or 4 gm. for those who persisted in twitching, and this dosage eliminated 100% of both moderate and severe twitching. In addition, one male who previously (regardless of maximum Dilantin and Seconal dosage) had a convulsion consistently without twitching or a coma was able for the first time to go into a coma without twitching or convulsion. In his case calcium had to be given at the same time as his insulin injection.

Since making the observations noted above, the routine use of calcium gluconate in doses ranging from 2 to 5 gm. where indicated has markedly reduced the incidence of convulsions on the Insulin Unit at Greystone Park. Furthermore, the combined routines of calcium and of neostigmine (7) has almost completely eliminated the necessity for the previously frequent intravenous infusions of glucose during insulin therapy. Moreover, the knowledge that calcium can help to prevent convulsions has reduced the contraindications for ICT. For example, ICT has been given to a patient with a partially successful spinal fusion who previously would not have been a desirable candidate for insulin because of the possibility of spinal fracture during a hypoglycemic convulsion. In this case, calcium and Dilantin were combined for maximum protection from the occurrence of a convulsion, and the patient, who showed slight muscular twitching even after calcium was added to his routine, was able to have adequate

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comas uncomplicated by either convulsions or severe twitching.

SUMMARY

In ICT, the oral administration of calcium gluconate in doses ranging from 2 to 5 gm. either at the time of insulin injection or within one hour thereafter resulted in a 100% elimination of hypoglycemic convulsions or severe muscular twitching on the Insulin Unit at the New Jersey State Hospital. This therefore is felt to be an important contribution to ICT because it can be used in those patients who otherwise would have convulsions or severe twitching and who would not have received an adequate course of insulin.

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CASE REPORTS

MENTAL SYMPTOMS OCCURRING IN KARTAGENER'S SYNDROME

BEN A. FINKELSTEIN, M.D.¹

In all of the literature known to the writer about the Kartagener syndrome was found only one case, "Fall 3. W. O." (1), in which there was also a psychiatric diagnosis, namely, schizophrenia. Even in the many other cases cited in "Bronchiectasien bei Situs viscerum inversus" (2) which summarizes numerous other authors' works on the syndrome, there could be discovered no references to the patients' mental condition, especially whether or not the "idioidispositionellen" (2), or congenital malformation, was combined with mental deficiencies or other mental aberrations. This might lead one to believe it is quite possible the investigation of the mental status of patients with this syndrome has been neglected—and, considering the great advance in genetical studies, why would it not be of considerable importance to have more knowledge of the mental condition of people suffering from the Kartagener syndrome?

I personally observed a patient, a 23-year-old white female, the only child of a healthy mother and a father who was diabetic and an alcoholic, whose first symptoms appeared about 5 years prior to her admission to our hospital; refusal to eat and talk, untidiness and being easily upset. She had already received treatment, including ECT, at another hospital, but upon admission to our unit was confused, withdrawn, negativistic, confessed to hearing voices say "quit your job," and stated she could not get along with her parents. There was indication that her manner was combative or threatening toward her parents who constantly warned her to be careful of the opposite sex.

After receiving psychotherapy, her behavior became more appropriate and she denied having any more hallucinations, but

her affectivity remained flattened; also, contact with reality was not too good, since preoccupation and a withdrawn attitude still persisted. The Rorschach test indicated that the patient's reality testing was weak and her thinking deficient in conformity and adaptability. In summary, the Rorschach was suggestive of a chronic schizophrenic reaction.

Although the patient recuperated sufficiently to allow her to return home and to her job, this improvement lasted only a short while; again there were difficulties with her mother and father, and she became so easily perturbed that it was necessary for her return to the hospital. At that time the Wechsler Adult Intelligence Scale Test was administered and the results were: performance I.Q.—67, verbal I.Q.—72, indicative of a moderate mental deficiency. Also, X-ray reports revealed *situs inversus*, and density in the lower left lung near the heart, suggestive of chronic inflammatory disease due to bronchiectasis.

Again, after additional treatment at the hospital, she was unable to function successfully on a job except for a short while outside the hospital; while the psychotic manifestations became milder, it has been necessary to allow her to remain in our care, assigned to special work in our institution which she performs satisfactorily under supervision.

Because everything that has been written about the Kartagener syndrome makes available only one case (1) offering psychiatric diagnosis, it would appear that we are denied the possibility of making a discovery which could be significant genetically. Our case of a patient with mental deficiency in a Kartagener syndrome, connected with schizophrenic reaction, is therefore presented toward the advancement of inte-

¹ Chief of Medical Staff, Eastern State Hospital, Lexington, Ky.

grated study pertaining to congenital malformation, in which the mental manifestations should also be considered, with the hope that others may follow with contributions toward this end.

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AN UNUSUAL ATTEMPT AT SUICIDE

JAMES K. McDONALD, M.D.¹

Lavage of the stomach is routine with patients who are suspected of taking an overdosage of medication in a suicidal attempt. Lavage of the rectum, however, I think is rarely thought of. There are an increasing number of medications in the form of rectal suppositories on the market. The following list represents some of these drugs and the common conditions that they are used to treat:

1. Asthma—aminophylline, *etc.*, with or without sedatives;
2. Migraine headaches—aspirin, caffeine, ergotamine tartrate, sedatives;
3. Nausea and vomiting—Compazine, Thorazine, antispasmodics;
4. Pain, insomnia, anxiety, *etc.*, with dysphagia or nausea and vomiting—"tranquilizers," sedatives, analgesics.²

Certain drugs, alkaloids, are even more toxic rectally than by mouth. This is partly due to the poor absorption by the stomach and partly due to circumvention of the destructive action of the liver.²

A 45-year-old white female was known to have ingested a large quantity of various psy-

chotropic drugs along with digitalis and several other unknown medications. She then slashed both ankles and one wrist and hid under her home. When treated, 1-2 hours later, the patient was in shock with shallow respirations. Nasal oxygen, levophed drip, and Ritalin were administered and the stomach was lavaged. Despite this, the patient remained comatose for 48 hours and Levophed was necessary for 36 hours. Her course was complicated by an episode of ventricular tachycardia which was treated with Pronestyl.

It was later learned from the patient that she had inserted 7 Compazine suppositories into her rectum. The manufacturer indicates that the 25 mg. Compazine suppositories are equivalent to 15 mg. of Compazine p.o. Therefore, the patient received a dose equivalent to 95 mg. of Compazine by mouth. It is felt that this appreciably contributed to the patient's shock and coma.

It would seem that it would behoove the physician to consider rectal lavage if the patient has been in possession of medication in suppository form. This might especially be indicated where it is obvious that the patient has used more than one method in the attempt at suicide as was true in this case.³

³ Hirsh, J.: Ment. Hyg., 44 : 3, Jan. 1960.

¹ 1730 Springfield Ave., Columbia, S. C.
² Blumenthal, L. S., and Fuchs, M.: Am. J. Proctol., 10 : 130, April 1959.

HALLUCINATIONS AFTER CHLORPROMAZINE
IN AN OTOSCLEROTIC¹NORMAN SHER, M.D.²

Hallucinations have been reported as a rare occurrence in individuals with oto-

sclerosis(1); also with use of chlorpromazine(2, 3). The following case shows some features of both.

¹ From the dept. of psychiatry, Mt. Sinai Hospital, N. Y.

² Senior Psychiatrist, Manhattan State Hospital, Wards Island, N. Y.

A 45-year-old white widow with a 10-year history of otosclerosis for which she had had

4 operations was referred to the psychiatric outpatient department by the ENT service with complaints of "anxiety, depression, insomnia and fear of loss of control." She was seen weekly during 4 months, and became increasingly anxious. In therapy sessions when dealing with affect-laden material she often complained that she could not hear the therapist, although at other times she showed no such difficulty. After 4 months of treatment, the date of a fifth ear operation had to be changed. In her next session the patient was hostile and suspicious and accused the therapist of having had the date changed. She refused further help, and after one more session stopped treatment.

She had her operation about one month later (revision of a left foot plate mobilization with prosthesis), with some hearing improvement. She was seen post-operatively while in the hospital, appeared calmer, and was told that if she wished, she could resume therapy after discharge. About one month after leaving the hospital she did so. At this time the patient was felt to have a mild involutional psychotic reaction (mixed type) which might be helped by drug therapy, and she was placed on chlorpromazine, 100 mg. q.i.d. She took the medication for one day, but then stopped because, as she stated, it "immobilized" her, but primarily because after going to bed she had heard music as though from the TV, and in addition saw lights flashing. She claims to have been wide awake and oriented during this experience. The sounds she heard were not lateralized. She was able to recognize the experience as hallucinatory even at the time, and was quite frightened by it. She denies hearing words, seeing objects, or sensing any percepts to which she ascribed meaning. She felt that this experience was due to the medication. She denied on several occasions ever having had a previous hallucination. Subsequent to this episode she was again placed on chlorpromazine in lower doses (25 mg. t.i.d., plus 100 mg. h.s.) and over the next several months had no further hallucinations.

DISCUSSION

The cause of this patient's hallucinatory experience is somewhat obscure. On the one hand occurring after the use of chlorpromazine which "immobilized" her and removed hyperactivity as a defense, it would seem to correspond to several of the cases described by Sarwer-Foner and Ogel(2) in which were noted "increased

psychotic deterioration when activity used as a major defense was chemically removed." They judge this to have resulted when the "physiologic effect [of the drug] was psychologically threatening" in certain patients. Their patients however became more obviously psychotic, did not recognize their hallucinations as such, and had more organized hallucinatory percepts with obvious dynamic significance (e.g., "angels talking"). Our patient's hallucinations were rather simpler (music, flashes of light) and she knew the hallucinations were such. Thus her experience corresponds more to hallucinations associated with focal nervous system disease. In particular her auditory hallucinations correspond to those described by Rozanski and Rosen(1), who discuss musical hallucinations with organic lesions. In their case "musical hallucinations were set in action by multiple otosclerotic foci," and they believe that "activity changes in the peripheral sensory mechanism . . . also provoke an hallucinatory process, even if no organic lesions of the centers is present."

In our case this would leave unexplained the visual hallucinations and the appearance only after chlorpromazine, with disappearance after lowering the dose, in an otosclerotic of long standing. Still another factor to be considered is the recent operation, with possible physiologic effects in the middle ear, and the psychodynamic effect of improved hearing in an individual using deafness as a defense.

The hallucinatory experience in this individual seems to show both focal organic and psychogenic features, and tends to underscore what has been noted by Fenichel(4) that the answer to the question of what causes hallucinations must come from both physiology and psychology.

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EST ADMINISTRATION IN A PATIENT WITH A PREVIOUS CARDIAC ARREST

NORMAN J. WILSON, M.D., AND DEMMIE G. MAYFIELD, M.D.¹

In a brief review of psychiatric literature, we have been unable to find reported a case of EST administered to a patient with a previous history of cardiac arrest. Therefore, we feel it worthwhile to report this case.

A 32-year-old, married registered nurse was well until Nov. 1957, when she began to be "nervous" and markedly intolerant to heat. Her family doctor diagnosed hyperthyroidism and, as her symptoms became progressively worse, she was started on antithyroid drugs and methimazole in May 1958. Her symptoms continued to increase concomitant with glandular enlargement, and, in Jan. 1959, she underwent subtotal thyroidectomy.

During the procedure, the patient had a cardiac arrest requiring thoracotomy and cardiac massage. A regular rate and rhythm were established within several minutes, and the original operation was completed. Although her cardiac status was satisfactory, she became agitated postoperatively. She developed depression and a sleep disturbance, as well as the other physiologic concomitants of depression which progressed to the point that she sought private psychiatric aid in March 1959. In spite of intensive psychotherapy, drug therapy and several psychiatric hospitalizations, she failed to improve. She was referred to the University of Texas—Medical Branch Hospitals in Nov. 1959.

On admission to the hospital, a diagnosis of

psychotic depressive reaction was made, and EST was felt to be indicated. General medical checkup revealed moderate hypothyroidism and normal cardiovascular status. Using our standard technique, EST was given: intramuscular atropine 30 minutes prior to treatment and intravenous sodium pentothal followed by succinyl choline. Positive pressure oxygen was administered before and after treatment. For the first several treatments, her ECG was monitored throughout the entire procedure. Treatments were well tolerated, both from the clinical and electrocardiograph point of view, and she received a total of 15 treatments, given 3 times weekly. She was markedly improved on discharge in Jan. 1960.

Thereafter, she was followed in the Medical Branch Out-Patient Clinic. In March 1960, increased fat deposit and hirsutism were noted, as well as moon-shaped facies. She was readmitted for endocrine evaluation, and at exploratory laparotomy in May 1960, a large tumor and the left adrenal gland were removed. The tumor was shown to be a low grade carcinoma arising from the adrenal cortex. The postoperative course was uncomplicated, and the patient was discharged in June 1960. She has continued to do well.

The case is interesting from two standpoints. A multiplicity of pathology was involved in a relatively young person. Electroshock treatment was successfully given in a patient with a previous history of cardiac arrest.

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HISTORICAL NOTES

SOCIAL PSYCHIATRY A HUNDRED YEARS AGO

MYRON G. SANDIFER, JR., M.D.¹

A *Manual of Psychological Medicine* (1858) by Drs. John Charles Bucknill and Daniel H. Tuke apparently enjoyed a favorable reception in England and elsewhere. Its fourth edition was published in 1879, by which time it appears to have lost some of its social inclination in favor of more emphasis in classification and organic pathology. The interest stimulated by the first edition led, however, to an examination of the *American Journal of Insanity* from its inception in 1844 through the 1850's for articles dealing with social psychiatry. The following summary represents a casual review from these two sources. Because some of the social issues are unsettled at this time, the author has thought it better simply to present the concerns and points of view of a hundred years ago, rather than to compare or contrast them with present viewpoints.

"MODERN CIVILIZATION IN ITS BEARING UPON INSANITY"

Dr. Tuke (for it was he who wrote the sections dealing with social issues) devotes a full chapter to an examination of the question, "Does Civilization favor the Generation of Insanity?" Although he is interested in statistics, he promptly rejects conclusions drawn from haphazard data. He says :

On no subject has there been more absurd and illogical reasoning, and more hasty generalization, than on the proportion of the insane to the population, whether in regard to various countries, or in regard to the same country at different periods of its history. The most obvious essentials for making correct comparisons are constantly disregarded, notwithstanding which the most important inferences are drawn with the utmost complacency . . .

The same note of caution is sounded by the editor of the *American Journal of Insanity* in a comment on an article from Italy ascribing the lower incidence of insanity in that country to the "predominance of agricultural pursuits . . . and the consequent avoidance of that anguish which impending and approaching starvation brings on the mechanic . . ." (2).

However, Dr. Tuke goes on to reason that

the liability of mental disease is greater (other things being equal) in a civilized and thinking people, than in Nomadic tribes, or in any race whose intellectual faculties are but little called into action . . . Civilization . . . creates social conditions, and offers prizes dependent solely upon intense intellectual competition, unparalleled in any former age . . .

Dr. Tuke makes it clear, however, that he does not mean principally "excessive intellectual exertion." "Civilization involves the overtaking of the emotions, as well as, and sometimes independently of, the intellectual powers." He draws his conclusions about the greater liability to insanity in the "civilized and thinking" from this line of reasoning and from reports by visitors to other cultures—including American Indian, Arabian, African, Chinese, East Indian and South Sea Islanders (all reporting relative infrequency of insanity among these peoples.) The *American Journal of Insanity* (1852) likewise quotes an article which states, "The prevalence of insanity in any country is in proportion to its civilization" (3).

"CULTURE AND THE SYMPTOMS OF MENTAL ILLNESS"

The 1859 volume of the *American Journal of Insanity* printed the translation of a report in the *Annales Medico-Psychologiques* of a medico-legal case involving a Corsican.

¹ Director of Research, N. C. Hospitals Board of Control, Raleigh, N. C.

The French author (Dr. Aubanel of Marseilles) discusses some aspects of life on Corsica: the vendetta, the tendency to homicidal mania and the "deplorable habit of constantly wearing a dagger." His thesis is that insanity, when it occurs, takes on the characteristics of the culture. The *American Journal of Insanity* comments, "What is here considered is the question of the diagnosis of mental disease by the most liberal use of not only the mental characteristics of the individual, but those of his country and race"(4).²

ECONOMIC CONDITIONS

The role of economic status receives primary attention in terms of poverty or pauperism. Using the figures for Massachusetts for 1856, Jarvis points out that pauper class furnishes proportionally "sixty-four times as many cases of insanity as the independent class"(5). He goes on, "poverty is not a single fact of an empty purse, but involves in various degrees the whole man."

Tuke, with characteristic perceptivity, observes that "the mere circumstance of becoming insane frequently involves pauperism."

OCCUPATION

The *American Journal of Insanity*, 1856, quotes an article from the *Christian Intelligencer* stating: "Paralysis, apoplexy, softening of the brain . . . are striking down our scholars, jurists, physicians, professors and clergymen with fearful frequency"(6). Clergymen are deemed to be in an especially precarious position because they

do not take a day of rest. Tuke turns again to his statistics: "Thus, if we take the number of clergymen and lawyers admitted to Bethlem Hospital, during a certain period, we find them equal; and the influence might be drawn that they are equally liable to mental disease." However he then presents a table of admissions by occupation, relative to the incidence of the occupation in the general population. From this he concludes that lawyers, compared with ministers, are doubly liable to insanity, "as might have been anticipated."(1)

"TOWN AND COUNTRY LIFE"

The familiar rural-urban breakdown receives rather thorough examination by Dr. Tuke. From his own studies, and those of others, he concludes that there is more insanity in counties with large factory centers than in agricultural counties. He had to derive his conclusions, of course, from hospital admissions rather than demonstrated population incidence.

In the hundred years since these writings, the tools of investigation have been considerably sharpened. It is interesting to see, however, that some of the social issues have been concerns for at least a hundred years.

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COMMENTS

WHAT ARE THE FOREIGNERS UP TO?

That learning knows no frontiers, and that medicine in particular disregards national divisions would have been conceded true any time in the last thousand years: never more readily than today. International congresses by the dozen, World Health Organisation, committees most admirably heterogeneous in membership, periodicals that list and abstract all that appears in periodicals, summaries in *Interlingua*—there is no dearth of evidence that expensive efforts are made by physicians and scientists, scholars, editors and publishers to surmount the political and linguistic barriers which could hinder rapid spread of medical knowledge. This is all to the good. But is it not doubtful whether these ecumenical aims are being achieved? Do psychiatrists, in particular, look sufficiently outside the limits of their own country to find out what is being thought and observed elsewhere?

An analysis of the bibliographic references attached to psychiatric articles appearing in the specialist journals of several countries in 1961 shows considerable variation. American and French writers seem most content with the writings of their own fellow nationals: 81% and 76% respectively of their references are to articles appearing in American or in French publications. American writers cite English articles next (14% of all references), only 2% German or Swiss, and 3% for the rest of the world. The French writers, similarly fond of the home team, have only 12% of their references American, and 6% English. It can be inferred that American and French writers on psychiatric topics are rather complacent about their horizon.

How about the English psychiatrists, the Germans, the Swiss, and the Scandinavians? They have a more catholic range. British writers quote British writers to the extent of 46% of all their references, then Americans (36%), Germans (9%), French (5%), and Scandinavians (3%). Germans quote Germans to roughly the same extent (49%), giving fair attention also to Swiss (10%),

American (19%), English (10%), Scandinavian (5%), and French (3%). The Swiss are impartial, if not actually self-denying: the proportions in which they cite are Swiss 13%, German 16%, French 27%, American 18%, English 17%, and Scandinavian 5%. The Scandinavians, similarly multilingual and alert, quote themselves in only 13% of their references, others being in the proportion 13% German, 53% American, 15% English, 3% Swiss, and 1% French.

These figures, drawn from two or three recent consecutive numbers of the psychiatric journals of various countries, are no doubt heavily biased by accidental circumstances peculiar to those numbers—the themes dealt with, the number of references appended, the original country and language of the contributors: another such analysis, on larger samples, would give more definite, and possibly different information. But it seems clear that awareness of what is currently going on outside the confines of one's own country is more prompt and diffused in England, Switzerland, Germany and Scandinavia than in the United States or France.

The amount of mastery of foreign languages is one powerful factor here: thus French doctors, by culture and tradition, and Americans, who seem indisposed to avail themselves of parental, grandparental or great-grandparental languages, are mostly content to speak and read only one tongue. This decidedly limits the scope of one's reading. Equally important is the belief that what is being done in other countries is less valuable than what is done in one's own; or that what is valuable in the outlying centres will percolate through in good time, by the medium of translations, personal visits, and other non-literary contacts. The frequency of citation may, of course, truly reflect the value and ascendancy in the world today, of the psychiatric practice and research of a particular country: if so, it must be left to Frenchmen and Americans to settle their apparently rival

claims. But it seems unlikely that the popularity of any one nation's publications or the quantity of reference to them is a true gauge of their importance. Certainly the history of psychiatry shows that no country has had a monopoly in original ideas and effective measures for furthering our branch of medicine. If a big step forward, or a lot

of little steps forward, are made in a country whose language is Slavonic, or Japanese or Chinese, or even something as strange as Italian or Spanish, it will be a pity if the rest of us, in our self-sufficiency, take a long while to catch up.

SIR AUBREY LEWIS, M.D.

Sarcastic Science she would like to know,
In her complacent ministry of fear,
How we propose to get away from here
Where she has made things so we have to go
Or be wiped out. Will she be asked to show
Us how by rocket we may hope to steer
To some star off there say a half light-year
Through temperature of absolute zero?
Why wait for Science to supply the how
When any amateur can tell it now?
The way to go away should be the same
As fifty million years ago we came—
If any one remembers how that was.
I have a theory, but it hardly does.

—ROBERT FROST

CORRESPONDENCE

TREATMENT OF CARDIAC ARREST

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : Reference is made to a letter from Dr. Corbett Thigpen in the July, 1961 issue of the *Journal*. Dr. Thigpen suggests that the EST machine itself, could be used to stimulate the heart back into action following a cardiac arrest associated with EST, by placement of the electrodes on the chest wall anteriorly and posteriorly. I agree that this might work if the arrest was discovered *soon enough*. However, in the usual situation at least several minutes elapse before the diagnosis is made—by this time the myocardium becomes so anoxic that applying electrical stimulation is like whipping a dead horse, this is also the case when intracardiac epinephrine is injected.

In a recent article Starzl¹ states, "The capacity for electrically evoked contraction

decreases with every second of continued asystole so that in 2 or 3 minutes an unresponsive myocardium develops in a favorable candidate for stimulation."

However, if all physicians who use EST are *acutely* aware of the possibility of a cardiac arrest, this method of treatment could be extremely valuable along with external cardiac massage until the electrodes can be properly applied as suggested by Dr. Thigpen. If electrical stimulation is not successful, external massage can then be continued until and if the myocardium becomes oxygenated and responsive.

Genevieve A. Arneson, M.D.,
New Orleans, La.

¹ Starzl, Thomas E. : *Surg. Gynec. Obstet.*, 112 : 624, May 1961.

REPLY TO THE FOREGOING

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : I wholeheartedly second Dr. Arneson's statement that the cardiac arrest would have to be discovered quickly. I too think that any physician who uses electric treatment would have to be acutely aware of the possibility of a cardiac arrest. It should be quickly apparent to the physician whether the developing cyanosis is due to an obstruction in the airway or to another factor. I have the pulse constantly checked during treatment by my assistant and I also keep check on the pulse. In this way any change in cardiac status is quickly noted.

It is true that other things can happen which are alarming in the treatment of a patient and sometimes one must make a quick decision. When the patient is rapidly becoming moribund more heroic measures

are taken than under less pressing circumstances.

I believe it is advisable to begin external massage immediately. This can be carried out while an assistant is placing the electrodes properly on the patient. Time is of essence ; so unless the heart beat immediately begins, I feel that the electric shock machine must be used without undue delay. I was taught in medical school that the injection of epinephrine into the cardiac musculature is indicated. It is a procedure that requires too much time. It is now my understanding that many cardiologists feel it is more the prick of the needle that stimulates the heart than the injection of the epinephrine. I personally would choose the administration of electricity rather than the intracardial injection of adrenalin.

Corbett H. Thigpen, M.D.,
Augusta, Ga.

RE : "EXPERIENCES WITH ELAVIL"

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : Re : Cl. Notes in the *Journal* of July 1961, "Experiences with Elavil Treatment of 51 Cases of Depression," by Dr. M. D. Pressman and Dr. L. B. Weiss.

I was interested that sleepiness was a frequent side-effect of Elavil, which concurs with the findings of my experience in private practice. This finding places Elavil in a group apart. To my knowledge, other thymoleptics and MAO inhibitors do not have a hypnotic action. On the contrary, iproniazid was credited for causing an occasional insomnia. It would be worth while to find out if this hypnotic effect could be put to good use in the insomniac patient. One wishes that a delayed action Elavil be soon marketed so that one can order it h.s.

It is unfortunate that the authors have ventured an opinion on imipramine. This *en passant* opinion which is offered as if it was the finding of the study is out of place because the paper is solely concerned with Elavil. The statement that "a beneficial tranquilizing effect which is absent with Tofrānil" is contrary to facts. I heard many a patient who, having been on Tofrānil for a week, reported that they felt "less tense," more "relaxed." The tranquilizing effect of Tofrānil is also mentioned in the literature. The latest such report I know of is Dr. P. Polonio's paper on "Antidepressive drugs in the treatment of depression" (*Diseases of the Nervous System*, August 1961).

Alphonse Telfeian, M.D.,
690 Congress St.,
Portland, Maine.

REPLY TO FOREGOING

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : I am interested, of course, to know that Dr. Telfeian finds sleepiness also in his patients. I would not say that it was a frequent side effect in our experience with Elavil. It occurred in 18% of our patients. Therefore, I do not believe that this effect of Elavil can be put to therapeutic use as a "delayed action Elavil" to be ordered "h.s." In addition, the side effect of sleepiness was very unpleasant for our patients, because it was very profound, sometimes almost totally incapacitating, and had to be managed by a temporary reduction in dosage.

I agree with Dr. Telfeian that our comment on imipramine is *en passant*, but we

could hardly resist noting the much greater tranquilizing effect that Elavil had on our patients than did Tofrānil. For example : We found it necessary to control agitation in a good number of our Tofrānil patients by the concomitant use of Thorazine. This was unnecessary in our Elavil study. I would like to mention that we have entered into a more lengthy discussion of Tofrānil in a recent paper, "A Comparison of Imipramine (Tofrānil®) and Amitriptyline (Elavil®) in the Treatment of Depression," in *Psychosomatics*, July-August, pp. 1-4, 1961.

Maurie D. Pressman, M.D.,
7900 Old York Road,
Elkins Park 17, Pa.

A VISIT TO THE ARGENTINE

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : In my recent report of observations in the Argentine I described the Policlinico de Lanús as the best in the country. Its Director, Dr. Mauricio Goldenberg, asks me to add the following notes of clarification about this clinic.

"The Clinic has not a Pavlovian orientation; only a few doctors, headed by Dr. Itzigsohn (Argentine, not Russian born), are working in this field. We are trying to integrate several psychiatric currents and in our staff there are analytical, neoanalytical, phenomenological and Pavlovian-

minded physicians. As a matter of fact, most of them have been graduated or are in analytical training.

"Also, most of the investigations carried in our Service are not supported by the drug laboratories, but only part of them are helped by those companies."

I am glad to call attention to his comments and hope they will clarify the policy and position of this clinic.

Joseph Wortis, M.D.,
The Jewish Hospital of Brooklyn,
555 Prospect Place,
Brooklyn, N. Y.

METHOD

To study the phenomena of disease without books is to sail an uncharted sea, while to study books without patients is not to go to sea at all.

—SIR WILLIAM OSLER

PERCEPTIVITY

One of the deepest and strangest of all human moods is the mood which will suddenly strike us perhaps in a garden at night, or deep in sloping meadows, the feeling that every flower and leaf has just uttered something stupendously direct and important, and that we have by a prodigy of imbecility not heard or understood it.

—G. K. CHESTERTON

NEWS AND NOTES

FAIRHILL PSYCHIATRIC HOSPITAL RESIDENCY TRAINING.—This hospital wishes to announce the establishment of a two-year residency program in psychiatry with affiliations in child psychiatry at Western Reserve University and in Neurology at the Cleveland Clinic. This will be expanded to a three-year program as soon as is feasible.

NARCOTICS ADDICTION INFORMATION CENTER.—The American Social Health Association has announced a new program re narcotic addiction. The Association will act as a professional information center for communities and groups seeking assistance in dealing with local narcotic problems. The publication of a comprehensive annotated bibliography is planned, and all organizations or individuals with material and reports that might be included in such a bibliography are invited to submit such material to the Association at 1790 Broadway, New York 19, N. Y.

PATIENT REACTION TO UNIFORMS.—To test the importance of ritualism, the nursing personnel on a male active treatment psychiatric ward at the Oregon State Hospital discarded the white uniform, symbol of the nursing profession, and wore street clothes on duty. As a result of the change the nurses found that the patients felt easier and more at home and that their relationships with the patients improved; that patients' resentment toward authority figures was eased; that the morale of the ward improved; and that patients began to take more initiative in the care of their fellow patients, and participated to a greater extent in maintaining ward responsibilities.

This experiment is reported in *Am. J. Nursing*, Dec. 1961, by Frances Gold Brown, director of nursing education at Oregon State Hospital, Salem.

TRAINING IN COMMUNITY MENTAL HEALTH.—Psychiatrists who have completed 3 years residency may apply for training at the Harvard School of Public Health. Three or four qualified students may be accepted each year. Basic course is 1-3 years, and may lead to the degrees of Master or Doctor of Public Health and Master or Doctor of Science in Hygiene (Community Mental Health). The emphasis is on the integration of public health and mental health concepts, on mental health consultation and education, community organization and research, and other aspects of community psychiatry.

Fellowships are available from the National Institute of Mental Health and from the Grant Foundation of New York. For the 1962-63 class applications should be submitted before April 1, 1962; however, applications completed by July 31, 1962 will be processed subject to availability of space. All inquiries should be addressed to Dr. Gerald Caplan, Community Mental Health Program, Harvard School of Public Health, 55 Shattuck Street, Boston 15, Massachusetts.

PSYCHIATRY AND MANAGEMENT.—The New York State School of Industrial & Labor Relations of Cornell University, will conduct a one day program, March 23, 1962, on "The Impact of Psychiatry on American Management." The conference is designed to examine some of the basic concepts of psychiatry which have caused changes in management practices and philosophy.

The following topics and speakers are scheduled:

1. The Impact of Psychiatry on American Management. John MacIver, M.D., assistant medical director, U. S. Steel Corporation.

2. New Approaches in Management Organization. Temple Burling, M.D., Cornell University.

3. New Approaches to Job Design. Frederick Herzberg, Western Reserve.

4. Personnel Policy Formulation and Psychiatry. Allan McLean, M.D., Staff Psychiatrist, I.B.M.

5. The Scientific versus the Administrative Approach in Administration. F. J. Rothlisberger, Harvard Graduate School of Business.

The conference will be held at the Hotel Roosevelt in New York City. For further information, please write : New York State School of Industrial & Labor Relations, Cornell University, 551 Fifth Avenue, New York 17, N. Y.

UNIVERSITY OF IOWA CHILD PSYCHIATRY CENTER.—Dr. Paul Huston, Head of the Department of Psychiatry of the State University of Iowa, announces the dedication on December 8th of a child psychiatry building adjacent to the State Psychopathic Hospital. The building has a capacity of 25 beds, plus offices for an outpatient service. Ten children who have been housed in the children's unit of the State Psychopathic Hospital will be moved into the new building at once and full capacity will be achieved later. Dr. Richard L. Jenkins, Professor of Child Psychiatry, is Chief of the Child Psychiatry Service. A program of residency training in child psychiatry is being offered.

THE COLLEGIUM INTERNATIONALE NEURO-PSYCHO PHARMACOLOGICUM.—The Collegium Internationale will hold its Third International Congress in Munich, Germany, from September 2-5, 1962. Inquiries about the program and details of the meeting should be addressed to : Dr. F. A. Freyhan, Secretary, Saint Elizabeths Hospital, Washington, D. C.

MARJORIE BOLLES COTTON.—Mrs. Cotton, consulting psychologist at the St. Luke's Hospital, New York City, died December 19, 1961 at that Hospital, aged 48. A graduate from Vassar College, Mrs. Cotton received the M.A. degree in 1935 and Ph.D. in 1937, both in psychology from Columbia University. From 1934 to 1943 she had been a member of the research staff in psychology at the New York State Psychiatric Institute.

Mrs. Cotton coauthored several books dealing with abnormal psychology, sex de-

velopment and personality. She was the wife of Dr. John M. Cotton, director of psychiatry at St. Luke's Hospital, Fellow of the American Psychiatric Association since 1940. There are two daughters and a son in the immediate family.

ASSOCIATION OF PSYCHIATRISTS IN AFRICA.—The Psychiatric Association, the first of its kind in Africa, has recently been formed and will include as members all psychiatrists working or living in Africa, irrespective of nationality. The secretariat will be located at the Neuro-Psychiatric Center, Aro Hospital, Abeokuta, West Nigeria. The Association expects to publish a journal dealing with African mental health problems.

The first meeting of the Association was scheduled to be held in West Nigeria in January 1962.

REQUEST.—The formation of mutual help organizations by persons sharing common problems appears to be increasing. Three broad, over-lapping problem areas covered are : unusual life situations (e.g., Parents Without Partners ; clubs of physically handicapped individuals) ; the emotionally ill (e.g., Rescue, Inc., Alcoholics Anonymous) ; and the socially deviant (e.g., Operation Youth ; the Gyp Club). Since knowledge of these groups will aid mental-health workers in planning with clients, an annotated list is being compiled. If you know of groups of this kind in your community, please write to : Howard T. Blane, Ph.D., Alcohol Clinic, Massachusetts General Hospital, Boston 8, Massachusetts.

CONTRAINDICATION TO USE OF THALIDOMIDE (TALIMOL, HORNER, AND KEVADON, MERRELL).—Dr. J. R. MacDougall, medical director of Frank W. Horner Ltd., Pharmaceuticals, informs us that information has been received of congenital malformations in the offspring of some mothers who had been taking thalidomide earlier in pregnancy. The matter is being investigated.

In the meantime the pharmaceutical house issues the following instructions : "Do not administer to pregnant patients or to premenopausal women who may become pregnant."

BOOK REVIEWS

THE PSYCHOLOGY OF CRIME. By *David Abrahamsen, M.D.* (New York : Columbia University Press, 1960, pp. 358. \$6.00.)

Family tension, says Dr. Abrahamsen, is the basic cause of criminal behavior. There is, he adds, "a close relationship between psychosomatic disorders and crime." While he does not ignore social, economic and cultural factors, Dr. Abrahamsen repeatedly highlights the role of family tension. Emotional deprivation in childhood, he thinks, is always found in criminals, and is "an essential factor in producing criminals." Emotional turbulence in a family may precipitate psychosis, psychoneurosis or criminal behavior. Where children are afraid to express themselves, he thinks, reaction may take the form of psychosis or psychoneurosis ; whereas "in the criminal family, we find a weaker superego. Outbursts, violence and heated arguments are more constant, intense and acute."

This makes it seem as if criminals are, in a mental hygiene sense, more "normal" than neurotics, since the neurotics are made to sound as if they flee into fantasy instead of into the relative reality of aggressive behavior. This seems inconsistent with the concept of internal and interpersonal tensions as the root factors in crime.

In disposing of offenders, Dr. Abrahamsen would assign to psychiatrists a greater role than most of us want to assume. He suggests that criminals be committed for a term from one day to life, depending on mental status. Only psychiatrists, he believes, can determine when it would be safe to release the offender from confinement.

Many of the author's theses must be considered rather controversial. Thus, he says, that "after a person has passed his forties, his biologic drive becomes diminished . . . and reduces the motivation and power for his antisocial acts." He disposes rather simply of both alcoholics and drug addicts. "The basis for the alcoholic's maladaptation is sexual . . . psychoanalysis is essential for his rehabilitation." That takes care of the alcoholic. Drug addicts, he thinks "had sharp criminal inclinations before they started taking the drug"—a position which most of us would reject. All sex crimes are interpreted as connected with unresolved Oedipus or Electra complexes. Electroencephalographic abnormalities correlate significantly with murder. Psychosurgery is one of several

therapies found particularly useful with mentally defective offenders. While Dr. Abrahamsen recommends psychoanalysis, he also says that a "patient who constantly acts out cannot be psychoanalyzed." And criminals are considered people who consistently act out.

The author's concept of criminal responsibility, under present laws, seems oversimplified—and inaccurate. He says, for example, that "if the offender is not considered psychotic, he is responsible for his acts ; if he is psychotic, he is not responsible." Since most states follow the rule in M'Naghten's case, there is, in most jurisdictions, no necessary congruence between psychosis and responsibility. Finally, there will be some disagreement with the author's suggestion that "in the same way that a man chooses to be a physician, printer or barber, another man may choose to be a criminal or a sex offender."

In spite of, or perhaps because of, these rather questionable hypotheses, this is a thought-provoking book. Dr. Abrahamsen defends his views with vigor and skill. This meaty text may lead to a useful reappraisal of our thinking about criminal behavior.

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THE MENTALLY DISABLED AND THE LAW. By *Frank L. Lindman, and Donald M. McIntyre, Jr.* (Chicago : University of Chicago Press, 1961, pp. XIII + 445, 42 tables. \$7.50.)

This volume, a large quarto with double columns, is the first report by the American Bar Foundation on the written law of the 50 states relative to the mentally disabled. It presents the data developed since 1958, and is comprehensive indeed. The claim of the publishers that it is "the first American treatise on the law of mental disability" is a just one, for it goes into far more detail than Isaac Ray's masterpiece of 1838.

Some idea of the scope is given by a list of the chapter headings : historical trends, involuntary hospitalization (a term far less penal in connotation than commitment), voluntary admission, release and separation, rights of hospitalized patients, eugenic sterilization, domestic relations, incompetency, personal and property rights, sexual psychopathy, and criminal "insanity."

Under each of these topics is to be found not only a full discussion with recommendations, but a tabulation of the provisions of law of each state relative to that topic. There are copious footnotes giving reference to the literature and to the legal decisions.

With most of the statements and recommendations the psychiatrist will agree. The authors, for instance, urge wider use of the voluntary admission law, extension of the interstate compacts, separation of hospital procedures from a finding of incompetency, clarification of the "sexual psychopath" laws, especially the criteria, and broadening of the class of criminally irresponsible, with mandatory commitment of those acquitted by reason of insanity, and ultimately, perhaps, the adoption of the treatment tribunal, as recommended by Wharton, Glueck, and Roche.

The project of the American Bar Foundation is a continuing one, and the second phase, namely that of ascertaining how the laws work, is now under way.

A Psychiatric Advisory Committee has recently been activated and a full-time psychiatrist consultant is now associated with the legal field workers. Surveys are being carried on in several states, and we may expect next a report on how the statutes work in practice.

This volume should be studied by lawyers, judges, and legislators, as well as by psychiatrists, whether institutional or in private practice. The facts are here, and their presentation is an enlightened one. The American Bar Foundation has placed us in its debt.

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A STUDY OF THE PSYCHIATRIC NURSE. By Audrey L. John. (Edinburgh and London : E. S. Livingstone Ltd., pp. 239, 1961.)

This book represents a comprehensive, descriptive study of the psychiatric nurse, her education, working conditions and behaviour in the care of patients. It was conducted in four British mental hospitals, and should be helpful for government leaders interested in the care of the mentally ill, hospital administrators, and nurse educators in any country.

It is an analysis of conditions which obviously needed to be studied. Much change for the good should come of it. The stress on need for better teamwork, communication, and physical conditions, as well as for better education and categorizing of nurses should be helpful for those attempting to move from a custodial to a more therapeutic type of patient care. One cannot help but agree with Miss John's sug-

gestions that the improvement of the role of the nurse, the brightening of drab physical facilities and the provision of more and better equipment for general nursing care, are indicated. These suggestions are based on sound principles of patient care and nursing education, e.g., nursing care is improved when clinical teaching is based on small conferences concerning patient care, and when more communication takes place between nurses and other professional groups. This latter statement is one characteristic of the "Therapeutic Milieu."

The introduction states the problem: "to determine the outstanding problems associated with the provision of nursing care in the mental hospital situation and to assess, where possible, their effect on the quality of that care." This is an extensive area to be covered by one person. The findings are therefore necessarily limited. One aspect, however, might have been enlarged upon, i.e., the patterns of administration found within the four hospitals under study. This is one aspect of a hospital community that vitally affects the nursing care of patients. Other studies of this nature ("The Patient and the Mental Hospital" by Greenblatt, Levinson, and Williams) recognize this factor.

The problems discovered in this study are extensive. In many respects they bear some similarity to those in Canada and the United States, such as "the mass feeding of patients" in many mental hospitals, as well as the lack of adequate facilities for the care of older, long term patients in parts of our country. The interpretation of and suggestions made from the data are generally quite sound.

A question that might be raised is: How large a sampling of British mental hospitals would the four studied represent? This would be a very small number in some countries.

The tools used for gathering data, as carefully outlined in the appendices, are reliable. The tables and graphs are helpful indicating pertinent material, such as the members of staff by age and effects this will have on the nurse shortage in the next few years. The bibliography is extensive, and includes studies from many parts of the world, on both sides of the Atlantic Ocean.

On the whole Miss John is to be admired for her sincere efforts in promoting the improvement of conditions in this field, through such a study. It is felt that improvements will follow. Further studies undoubtedly will arise from this analysis of psychiatric nursing in Britain.

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MENTAL RETARDATION—PROCEEDINGS OF THE FIRST INTERNATIONAL CONFERENCE. Edited by *Peter W. Bowman, M.D., and Hans V. Mautner, M.D.* (New York and London : Grune & Stratton, 1960, pp. 530. \$12.50.)

This interesting and stimulating book is a compilation of papers presented at the First International Medical Conference on Mental Retardation, held at Portland, Maine, in 1959. Ten countries of the world were represented. Seventy of the 80 participants were physicians.

Discouraged over "the obvious failure of past years to establish and to apply a valid and well-defined scientific criteria of diagnosis, of prognosis, of therapy and prevention, the Conference was called to stimulate the medical leadership in this important field of work. . . . The time has come that medicine must assume its role of responsible and effective leadership based on the fact that the syndrome of mental retardation is primarily and predominantly a medical problem. It concerns the general practitioner, the obstetrician, the pediatrician, the neurologist and the psychiatrist long before it becomes a medical problem to the teacher, the psychologist and the social worker. These ancillary professions, as well as others closely associated with them like occupational and physical therapy, speech and music therapy, have learned to make constructive and impressive contributions primarily in the area of therapy, and as a part of our research teams. They expect and are entitled to dynamic and enlightened leadership" (page ix).

The subject matter contained in the 38 papers is comprehensive in scope. Presentations of the anatomy of the brain and spinal cord with abnormalities, congenital or experimentally produced as they may relate to the problems of mental retardation, should be of interest to every physician as should the papers on the biochemical, enzymatic, metabolic, dietary and genetic research. Complications of pregnancy and the importance of infection are stressed. Differential diagnosis and the need for caution in formulating diagnosis is referred to, as are the behavior problems peculiar to the retardate. The inclusion of a paper stressing the education of the medical student and the training of the pediatrician, psychiatrist, and child psychiatrist will be of interest to all medical educators.

It is difficult to select any of the papers for special mention, for all are of high quality. They must be read to be appreciated. It is hoped that many will, for to do so will enrich the physician's understanding of the medical aspects of mental retardation and his responsi-

bility to exercise "dynamic and enlightened leadership" in this important area of concern to all. Though not specifically mentioned in this volume, this leadership must eventually be extended to include the many other professional personnel responsible for the education, care and management of the retarded child as he grows older, an area for future consideration.

Two papers, one in French and one in German, which are published in the original, are gentle reminders that a knowledge of other languages is essential and helpful to us all.

A valuable feature of this volume is the inclusion of selected references at the conclusion of the majority of papers.

This book can be highly recommended to all physicians interested in the field of mental retardation. It should, likewise, be particularly useful to medical students, interns, and residents alike.

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A HISTORY OF MEDICINE, VOL. II. By *Henry E. Siegerist.* (New York : Oxford University Press, pp. XVI + 352, indices, illus. \$11.00.)

The first volume of Professor Siegerist's projected 8-volume history of world medicine was published in 1951. An eagerly awaited Volume II could only appear posthumously. The author had died in 1957. As Professor John F. Fulton, who wrote the preface to both volumes, explains, no such comprehensive coverage of medical history had ever before been undertaken—"the history of medicine and science in the broad cultural background of the general history of mankind." And as Dr. Fulton states in Vol. I, "Dr. Siegerist is probably the only living scholar who has both the training and the vision to approach the development of medicine on this vast scale."

Siegerist had been an associate of the great Karl Sudhoff, director of the Institute of the History in Medicine in Leipzig, the first of its kind in the world, and had succeeded Sudhoff in that chair in 1925. In 1932 he came to the United States to follow William H. Welch in the chair of the History of Medicine at Johns Hopkins and to head the first Institute of the History of Medicine in the United States. In 1947 he retired to his homeland in Switzerland to begin at the age of 57 what was really his all-absorbing life work ; for he had been planning for it during his Leipzig years in the 'twenties. He stated in the preface to Vol. I that this book was the product of more than

25 years of research. In order to consult original sources first hand he had made himself familiar with 14 languages.

Upon Dr. Siegerist's death Dr. Fulton and his Advisory Committee turned to Professor Ludwig Edelstein, Siegerist's former associate at Hopkins, to edit and publish Vol. II.

It is divided into 4 major sections: Archaic Medicine in Greece, Hindu Medicine, Medicine in Ancient Persia, and the Golden Age of Greek Medicine.

The chapters were incomplete; the first three cover the background and early history of medicine in its cultural relations in the three countries. In the fourth section he goes back to add to Section I a fascinating 122-page story of the Golden Age in Greece, the unsurpassed summit of civilization of the age of Pericles. He surveys in some detail the Hippocratic Writings, and deals amply with medical practice and theory. As an interesting detail Siegerist is able to explain the apparent inconsistency of the general acceptance and practice of abortion by Hippocratic and other physicians with its prohibition in the Hippocratic Oath. The Greeks had not the same respect for life as the people in India and as in the contemporary West where the slogan "Reverence for Life" is so frequently and so indiscriminately uttered. Siegerist found that the so-called Hippocratic Oath "actually was a Pythagorean document . . . did not represent the general view . . . a manifesto of a relatively small religious group." He records the fact that "Plato and Aristotle both recommended abortion as a means of controlling the growth of the population."

On the last page of Dr. Siegerist's manuscript he had written the words: "Here my legacy ends." After full consideration, therefore, it was decided to print the text as it stood. It is a most valuable continuation of Vol. I. The range of the author's knowledge is so vast and his language is so clear that in brief paragraphs he can paint a picture of a culture, its beginnings, developments and chief actors, at once authoritative and entirely free from the confusion in which lesser scholars are so apt to entangle both themselves and their readers in their attempt to crowd much in little space.

One is tempted to quote from many places in this book but must rest with some lines from the brief chapter on Ancient Persia. That vast empire kept little Greece in a state of warfare for half a century, but finally "collapsed after only two centuries, because it had no culture of its own. . . . Every young nation borrows from its neighbors in the beginning but it assimilates foreign modes and one day finds its

own means of expression. Persia never did, with one exception" (Zarathustra and monotheism, the God Mithra who became so serious a competitor of Christ, the Avesta, sacred book, containing both religious and medical lore).

And Siegerist concludes this section: "All in all it can be said that Ancient Persia did not in any way contribute to the advancement of medicine. It did produce great rulers, great soldiers and above all, a prophet and poet who taught a pure and highly ethical religion. Medicine, however, remained primitive. Persia's time to make its contribution to world medicine came much later, in the tenth and eleventh centuries of our Era. Again it was a foreign impulse, Islam, that activated latent forces. At that time Persia gave the world great physicians as well as immortal poets."

This later Persian history Siegerist was not given time to write.

He had outlined the topics for the remaining 6 volumes of the History of Medicine. They were: III. Medieval Medicine; IV. Renaissance Medicine; V. The Seventeenth Century; VI. The Eighteenth Century; VII. and VIII. Medicine from the Industrial Revolution to the Second World War.

As Dr. Fulton reports: "Full consideration was given to the possibility of having the History carried on by other scholars along the lines originally envisaged by the author, but after thorough exploration, it was concluded that this would not only be difficult, but actually quite impossible."

These two splendid volumes will therefore stand as the definitive text of Henry Siegerist's legacy.

C. B. F.

MENTAL HEALTH EDUCATION: A CRITIQUE.
Proceedings of the conference on mental hygiene held at Cornell University, September, 1958. *Editorial Committee: J. Perry Horlacher, Ph.D., Chairman.* (Philadelphia: National Association for Mental Health, Inc., 1960, pp. 180.)

This little volume is a report of the proceedings of the National Assembly on Mental Health Education held at Cornell University, Ithaca, N. Y., in September 1958. The Assembly was co-sponsored by the National Association for Mental Health, Inc., the American Psychiatric Association, and Pennsylvania Mental Health, Inc.

As might be expected, the conference had difficulty in defining mental health education

since it means different things to different people. In general, however, it was agreed that it means activities directed to helping individuals in developing and maintaining good emotional adjustment. In his usually practical manner, Dana Farnsworth suggested a somewhat negative definition. He stated: "Mental health need not be characterized by adjustment under all circumstances, nor by freedom from anxiety and tension, nor by freedom from dissatisfaction, nor by conformity or constant happiness." He added that mental health does not mean a passive adjustment and loss of originality and force.

It was agreed by the conference that to be mentally healthy is not simply to be free from mental illness, as is often asserted by those whose main interests lie in the care and treatment of the mentally sick. Another point of agreement was that measures which will absolutely reduce the incidence of mental illness are not yet known to science. Some in attendance at the conference felt that proper education may reduce the number of neuroses but expressed doubt if this could be done for the psychoses. The consensus was that efforts to ameliorate mental illness and to rehabilitate mentally ill are valid, but that efforts to prevent mental illness either by early treatment or by education are still largely a matter of faith.

Members of the conference agreed that psychology, with its new insights into man's behavior, is almost universally held to be a significant development in contemporary life, but doubt was expressed as to whether this new insight means that psychological knowledge can be used by the average citizen to improve his own behavior.

The reporters of the conference agreed that basic to mental health education there should be agreement that human behavior is caused, no matter how bizarre or deviant it may appear; that most human actions are complicated and a product of many causes; that behavior is determined by emotional drives which often compete with rational considerations and that it is influenced in part by unconscious motivation.

To provide a mental health education which will promote human happiness, lessen interpersonal tensions and promote maximum potential in the individual is a challenging task. Perhaps, as Erich Lindemann suggested, there should be a new profession—that of mental health educator, who will suggest more effective measures than wishful thinking.

Those who attended this conference must have found it a stimulating occasion even though we are as yet unable to define precisely

what the techniques of successful education for mental health should be.

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MANUEL DE PSYCHIATRIE. (Textbook of Psychiatry). By Henri Ey, P. Bernard and Ch. Brisset. (Paris: Masson et Cie., 1960.)

This book may be considered a landmark within the area of psychiatric textbooks, not only because it is a systematic and clear presentation of all psychopathological problems, but also because it partly represents the summary conception of Henri Ey's vast experience in this field, which comes shortly after his monumental editing of *Encyclopedie Medico-Chirurgicale—Section of Psychiatry*.

The book begins with a comprehensive review of the history of psychiatry and different school and doctrinal tendencies. Following this there are 5 chapters in which are succinctly presented semeiologic, methodologic, psychologic and interview techniques in addition to the discussion of the varieties of mental syndromes, functional and organic. Chapter 7 discusses the psychotherapeutic and somatotherapeutic techniques. The final chapter considers administrative and judicial problems of psychiatry. The style is lucid and erudite in the best French tradition.

It should be emphasized that even though the book will be of considerable benefit for the beginner and the experienced, its usefulness, particularly for undergraduate teaching, would make the translation of this text a very desirable undertaking.

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AN MMPI HANDBOOK: A GUIDE TO USE IN CLINICAL PRACTICE AND RESEARCH. By W. G. Dahlstrom, and G. S. Welsh. (Minneapolis: University of Minnesota Press, 1960, pp. 559. \$8.75.)

The Minnesota Multiphasic Personality Inventory has been used widely in clinical, counselling, and personnel settings, and numerous research reports based on this instrument have appeared in the literature. The authors have undertaken a review and evaluation of over 2 decades of experience and research with the MMPI and, both in terms of coverage and organization, have turned out a very needed and readable work. The material is organized in terms of the major sections: "Administration,"

"Interpretation," and "Clinical Applications." An exhaustive bibliography of 1203 items is provided. In addition to keys for the 13 basic scales (4 validity scales and 9 clinical scales), the scoring keys for 200 derived scales are provided in the appendices.

This book is likely to become a standard reference for clinical psychologists and researchers. In addition, it will be a valuable aid to the growing number of psychiatrists and medical practitioners who have discovered the usefulness of the MMPI.

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TACTICS OF SCIENTIFIC RESEARCH: EVALUATING EXPERIMENTAL DATA IN PSYCHOLOGY.
By *Murray Sidman*. (New York: Basic Books, Inc., 1960, pp. 428, illus. \$7.50.)

This book examines the many kinds of problems and decisions which psychological research involves, and discusses in detail the considerations important in arriving at these decisions. The conceptual framework is that of B. F. Skinner. All the problems discussed are illustrated with specific examples, drawn mainly from operant conditioning experiments, an area in which the author is an experienced research worker. For the reader unfamiliar with this area, there is a terminological appendix. Effort will be required of such a reader in order to translate the principles involved in the examples to his own area of interest, although regardless of the examples, any research worker interested in furthering a science of behavior should find the general discussion profitable. The detailed discussion of the examples will probably be of most interest to the student of conditioning procedures.

This is not a statistical design textbook, and a sharp distinction is drawn between group and individual data. The author feels that group statistics cannot lead to a science of individual behavior, and may conceal valuable information which could be obtained from study of variations within individuals. Sidman's emphasis on working with individuals rather than groups as a research technique has appeal for the clinical investigator. This should not be construed as an argument for study of the unique case, but rather it is seen as the best way of understanding and controlling behavior so as to arrive at a precise formulation of basic laws governing behavioral processes.

The discussion of variability seems particularly pertinent for clinical research workers. Identification of the sources of variability in

data is an important means of establishing general laws; it should be recognized that even if these sources are eliminated statistically, they are still operative and are not fully understood until their effects can be controlled. While it may seem that for the clinical worker the ideal of direct experimental control which permeates this book is not of immediate concern, it is certainly desirable to be aware of and take advantage of techniques which can assist in attaining this goal.

Other topics covered include the uses and implications of various replication techniques, the importance of a knowledge of baselines before evaluating the effects of experimental manipulations, the improbability of producing irreversible changes within the organism, and a consideration of control techniques.

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THE DAWN OF CIVILIZATION. Edited by *Stuart Piggott*. (New York: McGraw-Hill Book Co., 1961, pp. 404. \$23.50.)

This magnificent book, written by 14 leading archeologists, constitutes the first world survey of the rise of civilization. As such it is indispensable for all students of the development of human culture and its consequences for the person. An understanding of the factors which led to the development of the city, social stratification, specialization of roles and occupations, statuses and powers, enlarge one's capacity to understand the conditions which have led to man as he is now. A book such as this should be obligatory reading for all students of the human mind.

The book, a folio, has nearly a thousand illustrations, 172 in color, and among them many of the most beautiful I have ever seen. A goodly number were made especially for this book; there are 110 original reconstructions, and 48 maps and chronological charts. The book is a triumph of book design, beautiful in every way, and a bargain at the price at which it is published.

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THE CHANGING NATURE OF MAN. By *J. H. van den Berg*. (New York: W. W. Norton and Co., 1961, pp. 252. \$4.50.)

This is a remarkable book! Among the spate of books on the nature of man published during the last 25 years *The Changing Nature of Man* stands out among the most original and

most sensitive. Dr. Jan Hendrik van den Berg is a Dutch psychiatrist who is Professor of Psychology at the University of Leyden, and is also, in private practice, a psychotherapist.

The book is subtitled "Introduction to a Historical Psychology (Metabletica),"—"Metabletica" or "Metabletics" from the Greek *metaballein*, to change. What Dr. van den Berg is interested in is the history of the changing nature of man. He challenges the widespread assumption that man's nature remains essentially unchanged and that basically there is nothing new in human existence. On the contrary, the authors shows with brilliant clarity that not only does human nature change, but that the changes produce essentially different people, not only in the lapse of centuries, but virtually in the lapse of generations. The author inquires into the nature of these differences and their causes, and at the same time he most successfully shows how the prevailing conceptions of human nature have both reflected and influenced the conditions which have produced those changes.

Dr. van den Berg is a widely read man, and brings to the examination of his theme the benefits of his extensive reading. The sensitivity of his analyses is reminiscent of no less a human analyst than Marcel Proust, and, indeed, with this book the author establishes himself as the Proust of contemporary psychiatry. It is no wonder that his book has created something of a sensation in his own country. It is a work of art as well as a work of science, and a special word of thanks should go to the translator Dr. H. F. Croes whose English translation is most excellent.

This is a book that should be read as a breviary, if not constantly, then not less than once every 3 months, for it is one of the most original and stimulating works on the evolution of contemporary man's psychic structure in existence.

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PEOPLE OF COVE AND WOODLOT. VOL. II, The Sterling County Study of Psychiatric Disorder and Sociocultural Environment. By Charles C. Hughes, Marc-Adelard Tremblay, Robert N. Rapoport, and Alexander H. Leighton. (New York: Basic Books, Inc., 1960, pp. 574. \$10.00.)

The Sterling County (Nova Scotia) study is one of the largest social psychiatric research projects ever undertaken, and this volume presents the information about the community setting. The reader awaiting the third and final volume containing the data on psychiatric

disturbances shares the excitement the authors must have felt while awaiting the final compilations from their 12 years of study.

Fortunately, part of the broad picture was clear at the time of writing this volume. While ethnic comparisons are not yet presented, it is known that the better integrated, economically secure communities of homogeneous ethnic background had a lower rate of mental disturbance than the poorly integrated, economically insecure communities of mixed ethnic backgrounds in the same county.

Of the two homogeneous economically secure communities, one was Acadian, the other Protestant-English. The Acadian community, pop. 296, was the most highly integrated of all the communities. Most of the residents had lived there 80% or more of their lives, there was a community co-operative, and a great deal of interdependence of residents. While they felt like a minority in a predominately English-Protestant area, the family businesses and lumbering work provided economic security to its inhabitants.

The Protestant-English community, pop. 432, had an economically secure base in fishing. Like the Acadian community it was isolated geographically, ethnically and religiously homogeneous, and highly integrated. Compared with the Acadian community, however, there is a sharper differentiation between the "upper" and "lower" groups in the community, the extended family has less functional significance, and the child-rearing and family patterns reflect individualistic values.

Three depressed communities, combined pop. 312, represented the pole of community disintegration, ethnic heterogeneity, poverty and economic insecurity. The people in these communities have a pessimism and despair, reflecting their position, and the attitudes of the community around them.

The people in the largest community in the county, pop. 2025, have urban characteristics of relatively high educational level, frequent movement, and variety of occupations and social class, ethnic, and religious groups. In order to make these data comparable with those of small communities, the authors divide their sample of this community into 12 "clusters," or groups of families within which there were unusually high rates of interaction.

In its scope and size, the study is very impressive and the mammoth task of co-ordinating changing personnel, a variety of sub-projects, and many kinds of questionnaires and other sources of data seem to have been handled admirably. Leighton's level of competence and familiarity with psychiatry and

social science is rare, even among those working on inter-disciplinary projects, and his personnel are competent in their various specialties. The brief accounts of the various aspects of these communities reflect a thorough familiarity with the communities. But the community descriptions do not convey intimacy and subjective participation as much as a detached thoughtful account based primarily on standardized observations and questionnaires.

If with all the rare virtues of competent personnel and broad scope made possible by large foundation support, one had hoped for major break-throughs in our understanding of mental illness, the result is disappointing. Unless volume III has many surprises, the ideas developed are no real advance over the work of sociologists at the University of Chicago studying social disorganization 30 years ago, despite the greater psychiatric sophistication of the present study. Nor, paradoxically, was the present study large or comprehensive enough to permit any kind of definitive statement about the relation between social disorganization and psychiatric development. Studying two integrated and three disintegrated communities with a combined sample of about 900, there is only a small increment in the degree of certainty with which we can now say that social disorganization of a certain kind is related to extent and kind of psychiatric disorder. If one is to be hard-headed about the value of research for knowledge about mental health, perhaps the time spent on systematically gathered questionnaire data, and observations on many topics such as financial history and geography (admirable for their thoroughness and scholarlyness but perhaps not for their relevance) might have been better spent either on studying more communities or concentrated more specifically on the position of problem families within the community. Perhaps the desire of a craftsman for completeness, balance, humaneness and impeccable objectivity reflected here (and other studies as well) may not coincide with hard-headed evaluation of priorities and relevance for building knowledge about mental illness.

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TREATMENT OF EMOTIONAL PROBLEMS IN OFFICE PRACTICE. By *Frank F. Tallman, M.D.* (New York: McGraw-Hill Book Co., 1961, pp. 426. \$11.00.)

If there is an area in psychiatry which needs accentuation more than another, it is the treat-

ment of the common, usual emotional problems of patients in general office practice. Dr. Frank F. Tallman, a psychiatrist and teacher of broad experience, has written a book on this subject which could well be read by every doctor in the country, to his, and his patients', advantage.

The first portion is devoted to the discussion of Personality Growth and Function from infancy to old age. It requires little time to discover that this book is not in the category of pedantic medical literature. Scientifically sound in every way, it is one of the most readable, interesting books available.

The next chapters on Symptom Formation (history, neurophysiology, anxiety) are augmented with clinical examples which will be easily recognized as prototypes of the people who come to the doctors' office every day in the week—phobia, conversion hysteria, anxiety reaction, depression, and so on.

In the latter part of the book under the heading of "Diagnosis and Treatment Methods," this reviewer found Chapter 15, "Treatment—Office Psychotherapy," particularly absorbing and was convinced that, after a careful study of the chapters dealing with essential background information, the general practitioner will be eager to read here about the practical use of psychotherapeutic techniques and begin to use them. To quote the author—"this chapter is written with the assumption that the methods to be described will be used and that the user will soon be able to adapt them to fit his own unique pattern of interpersonal relationships."

This book should serve to renew the doctors' interest in psychiatry, for it convincingly illustrates the value of the integration of psychiatry and medicine.

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MENTAL HEALTH BOOK REVIEW INDEX. Vol. 6.
Compiled by the Editorial Committee and
Contributing Librarians. (New York, 1961,
pp. 62. \$3.00 per year.)

Published annually under the auspices of the American Foundation for Mental Hygiene, this Book Review Index lists references to signed book reviews appearing in 150 journals in the English language, of which 133 are still current and publish reviews, regularly or occasionally. The indexing begins with volumes current in January 1955.

Send subscriptions to Miss Lois Afferbach, Paul Klapper Library, Queens College, Flushing 67, N. Y.

IN DEFENSE OF PUBLIC ORDER. By *Richard Arens*, and *Harold D. Lasswell*. (Palo Alto, Calif.: Columbia University Press, 1961, pp. 314. \$7.50.)

The title of this book would suggest that it would be of little interest to most psychiatrists. However, an examination of the content reveals an extensive discussion of the relationships between law and psychiatry. The presentation is likely to be of interest to any psychiatrist interested in forensic psychiatry. Possibly, this may be attributed to the professional background of one of the authors, Richard Arens, who is director of the project on law and psychiatry at the William Alanson White Foundation and Washington School of Psychiatry.

One illustration of the psychiatric material is (p. 48): "Need one add that the 'best' of rules for the determination of criminal responsibility is a sham without *adequate* psychiatric facilities for the defense in a system of adversarial justice?"

Likewise (pp. 92 to 96), there is a down-to-earth discussion of some of the deficiencies in the application of psychiatry to trial procedures.

Again in the chapter commencing at p. 102, this theme is exemplified. In this chapter there is some cogent criticism of legal safeguards in therapeutic procedures, particularly electric shock therapy and lobotomy, *e.g.*, (p. 104): "When we inquire into the use to which current therapeutic resources are put, a rather disconcerting state of affairs soon makes itself manifest. It is extremely doubtful that the psychiatric profession, for example, has been kept under sufficient community control. Conditions have been permitted to occur on a large scale that endanger rather than protect the well-being of patients."

In summary, the authors have included much material of interest to psychiatrists. This material, like most of the book, will be comprehensible to readers outside the legal profession.

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Toronto, Canada.

LECTURES ON EXPERIMENTAL PSYCHIATRY. Edited by *Henry W. Brosin, M.D.* (Pittsburgh, Pa.: University of Pittsburgh Press, 1961, pp. 361. \$7.50.)

In publishing and editing the 17 lectures presented to commemorate the Pittsburgh Bicentennial Year, Henry W. Brosin offers a rich and variegated menu of scholarly consideration, thoughtful humility, investigative

reporting, and soul searching relative to psychiatric research. The lectures are punctuated nicely from time to time by pungent stories and homilies of past experiences that have had a hand in the growth of the particular speaker.

The contributors are all men known to the membership of this Association for their encouragement, administrative interest or active contribution to research in psychiatry. They are: Franz Alexander, John D. Benjamin, Ray L. Birdwhistell, Joel J. Elkes, Jack R. Ewalt, Robert H. Felix, Ralph W. Gerard, Francis J. Gerty, Roy R. Grinker, Ernest R. Hilgard, Lawrence S. Kubie, Howard S. Liddell, William Malamud, Amedeo S. Marrazzi, Warren S. McCulloch, Robert A. Patton, David McK. Rioch.

From this list the reader may choose any of a series of provocative discussions which extend from "Paralanguage" by Birdwhistell and Franz Alexander's comments on the use of audiovisual methodology in modern psychoanalytic studies, through the theoretical discussion by Roy Grinker on "Anxiety as a Significant Variable for a Unified Theory of Human Behavior" to Elkes, wide ranging review of the problems of study of the psychotropic drugs and those more personally oriented investigations of Hilgard on hypnosis, Howard Liddell on contributions of conditioning to understanding stress, anxiety and illness, and Marrazzi on his work on the neuropharmacological approach as a means of assessing the activity of the newer agents in effecting synaptic transmission in animals.

The remainder of the articles are more generally cast. Yet their contents and their expressions of wisdom garnered from long personal experience provide a series of useful illustrations of the present status of research in the field of psychiatry.

As one might expect from the wide range of approaches represented, the reader may well leave the volume with the conviction that unified theories for comprehending human behavior are far in the offing. Certainly this series of lectures provides a broad view of the avenues of approach, their methodological problems, and the degree of sophistication which exists currently in psychiatric research.

LAWRENCE C. KOLB, M.D.,
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DELINQUENCY AND PARENTAL PATHOLOGY. By *Robert Andry, M.A., Ph.D.* (Springfield, Ill.: Charles C Thomas, 1961, pp. 173. \$5.50.)

The hypothesis that maternal deprivation—separation of mother and child or affective

deficiency on the mother's part—is a salient factor in the etiology of juvenile delinquency has been prominent in the literature on youthful aberrancy for at least 20 years. Dr. Andry, clinical psychologist in St. Thomas's Hospital and lecturer in psychopathology at the University of London, now questions this emphasis on the mother's influence, contending that insufficient attention has been given to the shortcomings of the father. He supports his thesis with the results of a sample study of 80 delinquent boys and of a control group of 80 nondelinquent boys. Data were obtained through an elaborate questionnaire submitted to the boys and their mothers.

Summing up his conclusions, Dr. Andry declares :

It is understandable that a growing child who has not been grossly deprived of his mother's affection feels entitled to receive at least an equal amount of affection from his father—in other words from both parents equally. If paternal affection towards the child is lacking, ill balance in the family structure must result. Under such circumstances it might be found, for instance, that the mother may try to compensate and unduly to protect the child from the nonloving father. Thus, a child who perceives his father in a negative way over a period of years may gradually not only develop hostility towards the father but may also at a given time start to project such hostility beyond the family scene on to the world at large. Some delinquent acts would seem to be meaningful if interpreted in this light.

The well-adjusted boy thus appears to be one who, in addition to other qualities, has identified himself with a positive father figure. Conversely, where a boy has difficulty in identifying himself with the father, a conflict is likely to occur that compels the boy to act out negatively outside the home. On this basis a form of delinquency is envisaged as a battle ground in which relationships are fought out between a boy and his father or between the boy and figures of authority in society. At the same time the boy in this situation is considered to maintain at least some measure of harmonious relationship with the mother.

The indications deduced from the study are that the role of the father is of great significance in the etiology of delinquency and that the supremacy of the mother's role is questionable as a universal feature. Therefore it is recommended that clinical guidance be provided for both parents of the delinquent.

The book has several useful components in addition to its description of the study and

its results. The 12-page questionnaire used as a medium is presented as a ready implement for further testing elsewhere, and a survey of the relevant literature and a bibliography provide a convenient reference guide in a moot field.

Dr. Andry modestly acknowledges his book's limitations by describing it as a localized empirical approach to the study of the child's perception of the role of both parents, as well as a study of the parents' confirmation of their own role playing. He expresses the endorsable hope that it will demonstrate the need for further research in a field of primary importance.

RALPH S. BANAY, M.D.,
New York, N. Y.

MY NAME IS LEGION. By Alexander H. Leighton, M.D. (New York : Basic Books, Inc., pp. 425. \$7.50.)

This is the first of a projected three-volume report on the Sterling County Study of Psychiatric Disorder and Socio-Cultural Environment. These first 425 pages describe the foundations for a theory of man in relation to culture, thus being in a sense only an introduction to the subsequent volumes which should contain the findings and conclusions of the study. This is unfortunate because the Sterling County Study is one of the outstanding epidemiological enterprises in mental health today, and the many interested readers already familiar with previous publications and reports of the Sterling County data may find this disappointing reading. At the end of this lengthy preview the reader will agree with the author: "Let us have done with for instance and begin with instance."

It is not clear to whom this book is directed in terms of professional sophistication. The author takes great care that no point remains unexplained or undocumented by lengthy chapter notes which makes for some redundancy. The reader occasionally gets lost in detail, for instance when in the concluding comment of Part I on psychiatric disorder three main derivatives for psychiatric illness are listed, namely heredity, physiological factors and psychological experience. No social parameter is mentioned in this summarizing statement although the explanation of the socio-cultural environment as a dynamic force in mental health and illness, of course, remains the major focus of this book and of the study. Because of the extraordinary care and circumspection the author takes in specifying his viewpoint, wherever controversial potential exists, there is nothing in the book with which anybody can disagree, but the many thought-

ful phrases and statements do not coalesce easily into a meaningful whole. The more narrative passages, on the other hand, are very well done, and weaving a few case histories through the material was a most fortuitous inspiration. The book instills awe for the difficulties and complexities of epidemiological mental health studies, and this is all to the good.

STEPHEN FLECK, M.D.,
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THE HOSPITALIZATION OF MENTAL PATIENTS.

Offprint from Vol. 6, No. 1, of the International Digest of Health Legislation. (Geneva: World Health Organization, 1955, pp. 100. \$1.25.)

This publication deals with terminology, methods of admission to and discharge from psychiatric institutions, safeguards and a survey of tendencies in laws being drafted at the date of the publication. There are tables showing the countries in which the legislation was surveyed. There are some noteworthy omissions including the U.S.S.R. and China.

K. G. GRAY, Q.C., M.D.,
Toronto, Canada.

ZUR GESCHICHTE DER ANGEWANDTEN PSYCHOLOGIE IN DER SCHWEIZ. By *Franziska Baumgarten*. (Münsingen: B. Fischer, 1961, pp. 108.)

The sudden, rapid and extensive development of psychology in Western Europe in the years 1910-1930 presents a unique phenomenon of scientific evolution and cultural mutation. During those years psychology invaded all realms of life: education, religion, law, business, military, politics, etc. One of the reasons for this cultural mutation was the advent of psychoanalysis, another the development of applied psychology and "psychotechnics." Of all countries, the one where this psychological revolution occurred most dramatically and completely was Switzerland. Dr. Baumgarten deals with this period of Swiss psychology, but her book is more than just the record of one episode of the history of science; it goes beyond the bare facts and shows what actually happened behind the scene.

The role of Claparède is revealed in its true light. Not only was he the founder of the famed *Institut des Sciences de l'Éducation* in

Geneva, but he was also a great pioneer in the experimental study of testimony, vocational counselling and industrial psychology. After him, however, the evolution of applied psychology in Switzerland took a rather unexpected turn.

Wilhelm Ostwald had already told in his book *Great Men* of university professors becoming envious of their more brilliant disciples and managing to "sterilize" them and ruin their career. The intrigues surrounding the beginnings of psychoanalysis are well-known. Dr. Baumgarten's book now shows how the progress of a branch of science can be slowed down and hampered by the mad ambition, jealousy, intolerance and meanness of some of its leaders. Claparède's pioneer work was kept under silence by some of those who were exploiting the gold mine he had opened. The new science was also bitterly resented by academic psychologists—mostly professors of philosophy—who hated to be awakened from their "dogmatic sleep," an attitude shared by several prominent psychiatrists (one of whom always spoke of "psychologists and other quacks"). On the other hand it was commercialized by a number of "engineers" who hastily organized psychotechnic institutes in order to sell their services and advice to industrialists and businessmen. The few adherents of applied psychology who endeavoured to keep their investigations along the line set by Claparède were the objects of venomous attacks or, still worse, a deathly silence surrounded their work. An amusing and sad story is that of the organization of the International Congress for Psychotechniques in Bern after World War II, with the fierce struggle for the chairmanship and vice-chairmanships and the ruthless intrigues to eliminate certain delegates.

Although Dr. Baumgarten does not mention Hermann Rorschach, her book is interesting in that it makes it clear why his test was received with such hostility. Whereas university psychologists ignored Rorschach as an outsider, the "engineers" understood before the others the practical possibilities of the test, whereupon academic psychologists branded the Rorschach test as being one of the methods used by the "charlatans."

Let us hope that Dr. Baumgarten's book will contribute to further the institution of professional ethics among scientists.

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MALPRACTICE RISKS CONFRONTING THE PSYCHIATRIST:
A NATIONWIDE FIFTEEN-YEAR STUDY OF APPELLATE
COURT CASES, 1946 TO 1961¹

WILLIAM A. BELLAMY, M.D.²

To the best of my knowledge, this is the first analysis that has been made of appellate court cases involving psychiatrists, and perhaps the first such study of any low risk group in medical practice.³

PURPOSE

In this paper I shall present data from published legal cases involving psychiatrists and make some conclusions from the trends that are observable in this low risk group. It is hoped that this study will alert the psychiatrist to the variety of risks with which he can be confronted, remind him of the need for continuing care and thoughtful discrimination in dealing with patients, and encourage him to communicate more freely with colleagues and legal counsel.

METHOD AND SOURCES OF INFORMATION

All appellate court cases in our nation are abstracted and published at regular intervals in permanent volumes as public knowledge. References to these cases are classified and republished semiannually and decennially.

¹ Read at the 117th annual meeting of The American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

² 450 Sutter St., San Francisco, Calif.

³ For background information on medico-legal problems see Hawkins(19) who presents hazards in anaesthesia, and Sadusk(20) writing on other high risk groups in medical practice.

For various specific problems in medico-legal matters, see Hassard(21) writing on prevention of claims, Morris' treatise(22) on *res ipsa loquitur*, Overton's article(23) on *respondeat superior*, and the outstanding address by Associate Justice William O. Douglas(24) in which he describes how the law has changed in respect to criminal responsibility of persons who commit a crime but who are mentally ill. Douglas emphasizes the need for continuing change and growth of legal practices and concepts to avoid the stultification and injustice that can result from rigidity in the law.

In the 15 years from 1946 to 1961, classified under the heading "Tort Action, Physicians and Surgeons," there appear 400 to 500 references⁴ of malpractice claims having reached the appellate courts. These abstracts vary in quality, depending upon the appellate court judge who wrote the report; most are fairly complete, especially as to the legal requirements involved in each case.

To supplement the information, I secured a brief from the attorneys both for defendant and plaintiff, insofar as was possible. In the majority of cases, the attorneys honored the request for a brief or other information. In no case did a defendant physician or sanitarium honor request for information so this approach was abandoned early in the study.

The advantages of securing appellate court cases for this analysis are: 1. These cases are readily available in published abstracts; 2. They constitute the important cases in establishing precedents within their legal jurisdiction by which older precedents become modified and the legal trends are established (consequently, these are the decisive cases in any medico-legal study); 3. They are fewer in number and have been carefully scrutinized by physicians and attorneys; 4. These cases demonstrate the careful considerations contributed to medico-legal problems by judges, attorneys and physicians in the preparation for trial and appeal.

The main disadvantage is that only one out of 100 claims reaches the appellate court, as estimated by Sandor(25). Perhaps a study of the larger case material would reveal trends not observable in the more select sample. However, this method would be

⁴ The overall number of cases was not counted because of overlapping and because claims against ancillary groups, such as osteopaths, chiropractors, midwives and so forth, are also included under the "Physicians and Surgeons" heading.

costly and there is no assurance that it would bring out additional data of significance.

CLINICAL-LEGAL FINDINGS

I. Incidence

Chart 1 illustrates for each 5-year period of this 15-year study the increase in number of psychiatric claims reaching the appellate courts in relation to the increase in number of psychiatrists (as measured by enrollment in the American Psychiatric Association).

CHART 1

Rate of Growth of APA Membership in Relation
To Rate of Increased Incidence of
Psychiatric Claims in Appellate Courts

MEMBERSHIP, AMER. PSYCHIATRIC ASSOC.*				NUMBER OF APPELLATE CASES EACH 5-YEAR PERIOD
YEAR	MEMBERS	EACH 5-YEAR PERIOD	MEMBERS, AVERAGE	
1945	5,645	1946-1951	4,750	3
1950	5,856	1951-1956	7,200	5
1955	8,534	1956-1961	10,240	10
1960	12,000 (approx.)		(approx.)	

* Approximately 3½% of the APA membership are not from the United States, e.g., Canada, Mexico and other countries.

Not until the last 5-year period of this study is there an indication that the incidence of psychiatric claims is increasing more rapidly than the growth of psychiatrists in the nation. In a previous communication I predicted(26) that as psychiatrists dealt with increasingly difficult cases in medicine and law, including complex social problems, the incidence of malpractice claims was sure to increase.

II. Who Is Being Sued?

Of these 18 cases, a psychiatrist was involved in 13 cases (of which 10 were Fellows and 3 were Members of the APA); non-psychiatric physicians were involved in 8 cases; and hospitals were involved in 9 cases. One Fellow of the APA was a Professor Emeritus of a large Medical School. The only office in the United States which cannot be sued is that of the President.

III. Types of Risks Encountered

The types of cases encountered fall readily into 3 main groups, with only 2 cases remaining miscellaneous. See Chart 2.

CHART 2

Types of Risks Encountered in Psychiatry

GROUP	NUMBER OF CASES
A. Problems of Treatment	9*
B. Problems of Commitment	6
C. Problems of Suicide	1
D. Miscellaneous	2

* Seven of these 9 cases concern shock therapies.

IV. Clinical-Legal Data : Case Reports

At least 1 case of each of the 4 groups will be presented in detail, and the remaining cases summarized. These 18 cases are listed in order of their appearance in the bibliography(1-18).

The 2 cases that are not shock therapies will be presented first.

A. Problems of Treatment :

Case 1. Hammer v. Rosen 181 N.Y.S. 2d 805 (1959). A schizophrenic girl died after extensive treatment for many years which cost the family \$55,000. The mother and the executors of the estate brought suit for breach of warranty of cure and for malpractice for allegedly assaulting the patient during treatment sessions.

In the trial court, New York, Harry A. Gair and Benjamin H. Siff, attorneys for the defendant psychiatrist, declared that since the psychiatrist had resisted the mother's urgent requests to treat her daughter and had referred the patient to a colleague for the first few months of treatment, and that further since he knew the patient had had 150 shock treatments in the prior 10 years without benefit, it was highly improbable that he would promise a cure.

The mother testified that her daughter was not combative. However, the mother's own diary contained accounts of the daughter throwing dishes, and injuring family or servants. The mother testified that she saw her daughter was black and blue after 4 of the treatment interviews and further, when questioned, the defendant psychiatrist

claimed self-defense or else said that his method of treating schizophrenic patients was to beat them and "get the devil out of their brains." Mr. Gair emphasized the incredibility that the psychiatrist ever talked in such manner.

Two other witnesses testified that the patient was seen to emerge from a treatment session black and blue and with torn clothing. In no case was the psychiatrist seen assaulting the patient, nor was damage to the patient proved.

The psychiatrist never testified because a dismissal was granted upon completion of presentation of the plaintiff's case. The plaintiff appealed.

Court action: The New York Supreme Court, Appellate Division, sustained the dismissal of the trial court, but Judge McNally wrote a minority opinion that alleged beating of a patient would be *prima facie* actionable (without requiring expert testimony).

The plaintiff appealed to a second, higher, appellate court.

Final action: The Court of Appeals of New York concurred with the minority opinion and the dismissal action of the trial court was modified to allow for re-trial of this case, which is still pending.

Case 2. *Powell v. Risser* 99 A. 2d 454 (1953). Wet pack treatments were followed by blisters on both hands, severe pain and eventual serious disability of both upper extremities.

Plaintiff's attorney alleged wet pack treatments were cruelly administered, bracing the foot against the chest and pulling the wet pack too tight. The blisters were lanced by an unsterile pocket knife.

The defendant's attorney produced expert testimony that the mild infection of the lanced blisters healed promptly and had no causative effect upon subsequent disability. Also, the wet packs were administered in accordance with "standard practice" as described in a military manual. The cause of the disability was unknown, and although regrettable, the serious damage present was not a result of negligence.

The trial court in Pennsylvania entered judgment against certain physicians.

Final action: The Supreme Court of Pennsylvania reversed the judgment and absolved the psychiatrists, physicians and State Hospital.

The remaining 7 cases relate to shock therapies.

Case 3. *Farber v. Olkon* 254 P. 2d 520 (1953). "Unauthorized consent" (authorization signed by patient's father) for EST resulting in fracture of both femurs prompted suit for malpractice.

The patient became schizophrenic when 19, and at 31 years of age EST was done under father's consent as nearest relative.

Final action: Supreme Court of California held that where no legal guardian is appointed, the right to consent rests with the parent; absolvment of psychiatrist sustained.

Cases 4, 5 and 6 illustrate the complete change in the law as regards "enlightened consent" within the brief 15-year period of this study.

Case 4. *Quinley v. Cooke* 192 S.W. 2d 992 (1946). Fracture of the right hip during EST with final gross disability due to non-union of the fracture.

The trial jury in Tennessee found in favor of both defendant psychiatrist and defendant sanitarium. However, the court granted right to plaintiff to appeal against the psychiatrist only.

The deliberations of the appellate court concerned 2 main legal points: 1. Does the doctrine of "*res ipsa loquitur*"⁵ apply? (As an example: a burn that appears at the site of a treatment in which a heating pad had been used.) The court held (p. 997, *ibid.*):

If we apply this rule of presumed negligence . . . in cases of this kind, the physician and surgeon would always be in fear of the result of a scientific treatment knowing that he might have to defend his professional reputation in open court.

This is still the generally accepted view in this country; namely, to bar *res ipsa loquitur* in cases of fracture during shock therapies.

2. The Appellate Court judge investigated EST in medical journals and found (p. 997, *ibid.*):

⁵ It speaks for itself.

⁶ From p. 487 of the trial record, as quoted on p. 32 of the brief by defendant's attorneys.

The treatment is something new in medical science. It originated in Italy in 1938 . . . Due to its very recent origin, all knowledge of . . . the principle is necessarily limited to only a few experts.

Therefore, the trial court was correct in exercising its discretionary powers in accepting expert testimony from an orthopedic surgeon and not from another psychiatrist. Furthermore, since the surgeon testified that fractures were a very frequent complication, no malpractice is presumed from the fact that a fracture occurred.

Thus, the attitude of the law in 1946 was that if it is well known that fractures commonly occur in connection with EST, then the patient suffers the risk along with the treatment. Unenlightened consent was not considered in this case which occurred back in 1946.

Final action: Supreme Court of Tennessee, judgment in favor of defendant psychiatrist was upheld.

Case 5. Johnston v. Rodis 251 F 2d 917 (1958). EST resulted in a broken arm. *Res ipsa loquitur* was not allowed in the pre-trial heading: upheld by appellate court.

However, the court held that the alleged statement by the psychiatrist that shock treatments were "perfectly safe" if made, and not qualified in any way, might properly be found to be a warranty, and so summary judgment (without a trial) in favor of the defendant-doctor should not have been granted.

Court action: United States Court of Appeals, District of Columbia: plaintiff is granted a trial on basis of possible existence of breach of warranty.

This trial was held. The psychiatrist denied that he stated EST was "perfectly safe," and his word was considered more likely to be true than that of the patient.

Final action of trial court: No breach of warranty was committed, and the psychiatrist was absolved.⁷

Case 6. Mitchell v. Robinson 334 S.W. 2d 11 (1960). Fracture of the spine from unintended convulsion during insulin sub-

coma. Jury awarded \$15,000 damages. The psychiatrist appealed.

The appellate court deliberated 2 main legal points:

1. Unenlightened consent: The plaintiff claimed the psychiatrist had not told of possible fracture as complication. The psychiatrist testified he had fully explained all possible complications. Judge Barrett referred to the *Salgo v. Stanford University (27)* ruling as being inconsistent within itself, but recommended a statement by *McCoid (28)* (p. 427, *ibid.*).

. . . serious objections may be raised to denying recovery where the reason for bringing action is failure of communication by doctor to patient. The proper solution of this problem . . . is to recognize that the doctor owes a duty to his patient to make reasonable disclosure of all significant facts, i.e., the nature of the infirmity (so far as is reasonably possible), the nature of the operation and some of the more probable consequences and difficulties inherent in the proposed operation. It may be said that a doctor who fails to perform this duty is guilty of malpractice.

See later comment on ambiguity of this point.

2. The trial jury received misleading instructions because the trial judge referred to "sole cause" incorrectly.

Final action: For the latter reason, the Supreme Court of Missouri reversed the verdict and granted a re-trial, which is still pending.

Case 7. Eisele v. Malone 157 N.Y.S. 2d 155 (1956). Action for personal injuries allegedly caused by the malpractice of a psychiatrist in administering ESTs despite symptoms of spinal fracture after the first of such treatments, and by the negligence of private sanitarium for failure to provide x-ray facilities.

The Supreme Court, Trial Term, New York City, entered judgment against the psychiatrist for \$5,000, and against the private sanitarium for \$25,000. They appealed.

Bondy and Schloss, law firm representing plaintiff, wrote that the case was settled out of court before the new trial started, but the amount of that settlement is held in confidence.

⁷ Mr. Cornelius H. Doherty, plaintiff's attorney, wrote to me that he never would have brought this claim to trial if the psychiatrist had answered his letters.

Case 8. O'Rourke v. Halcyon Rest 118 N.Y.S. 2d 693 (1953). A fracture occurred from EST prescribed by the private psychiatrist, and administered in a private sanitarium.

The trial court entered a judgment of unknown amount against the sanitarium and the staff doctor employed by them, and absolved the prescribing psychiatrist.

Court action : Supreme Court, Appellate Division, Second Department, New York City, judgment reversed and new trial allowed against the prescribing psychiatrist.

Final action : New trial, in which the psychiatrist was absolved.

The last case in this group illustrates what might be a trend toward suits against hospitals rather than the physician.

Case 9. Brown v. Moore 143 F Supp. 816 (1956). Suit for wrongful death. The jury awarded \$60,000 against the owners of a sanitarium (\$25,000 in wrongful death and \$35,000 in survival action). The latter was calculated from the patient being a steel worker, at \$665 a month salary, who in 36 years life expectancy would have earned \$370,000, of which the \$35,000 survival action is considered a fraction. He left a wife and 3 children.

The patient was hospitalized for anxiety neurosis. On the fourth day an EST was administered and convulsions produced. In keeping with accepted standard practice in that community, protection was provided for 2 hours during post-shock mental confusion.

About 7 hours after shock treatment, after lunch and a nap, the patient fell down a flight of stairs. He was unattended at the time, and the fall was not observed. The small award indicates the jury believed the fall to be an accident and not negligence, but Judge Marsh believed otherwise because the patient was confused about the fall.

The patient immediately complained that his neck was broken and that he was dying. There was immediate paraplegia of both legs and intermittent paralysis of one or both arms. Later there developed quadriplegia, distension of the abdomen, inability to defecate, projectile vomiting and respiratory embarrassment. He died 4 days after the injury.

The psychiatrist called the local physician in consultation. Both doctors diagnosed hysterical paralysis. The patient was not placed in traction, nor were x-rays taken, nor was a spinal tap performed.

Autopsy reports : X-ray, post-mortem, revealed an anterior dislocation of the fourth cervical vertebrae, 8 mm., on the fifth cervical vertebrae, and a depressed fracture of the fifth cervical vertebrae. No blood was found in the subarachnoid space of the brain or spinal cord, and the pathologist observed no evidence of injury to the spinal cord down to the second cervical vertebrae. The pathologist admitted that his examination would not disclose injury at the area of the fourth or fifth cervical vertebrae.

Defendants' attorneys, Harold E. McCamey and Milton W. Lamproplos, emphasized the expert testimony of a plaintiff's witness that a hemorrhage within the spinal cord could produce these symptoms and death. No blood would appear in the subarachnoid space, and immobilization of the head and neck would not have prevented death from intracord hemorrhage. Thus they claimed the plaintiff failed to show alleged negligence of the psychiatrist to be sole cause for damage to the patient as required by law in negligence action.

The main issue before the trial court concerned the contractual arrangement between the psychiatrist and the sanitarium, by which the psychiatrist was given salary and housing with privilege to conduct private practice during slack hours. The plaintiff's attorneys plainly considered the psychiatrist to be an employee. They did not even name him as a defendant nor did they call him to testify as a witness.

Pennsylvania law holds that only a licensed physician can practice medicine and that for the doctrine of "*respondet superior*" to apply, the sanitarium must have privilege of supervising or directing the medical activities of the employee. Otherwise, the psychiatrist would be an "independent contractor."

On this basis, attorneys for owners of the sanitarium, including their third party defendant psychiatrist, moved for a directed verdict or at least for a new trial against the psychiatrist.

After the jury returned a judgment of

\$60,000 against the owners, Judge Marsh deliberated on the merits of the above motion. He stated (p. 822, *ibid.*) :

These owners did not have a duty to do that which the law forbade . . . Indeed, it would have been unlawful and reckless on their part if they had attempted to perform these (medical) functions.

Final action, Judge Marsh, trial court : Jury judgment against the owners is contrary to law ; and it is not allowed to grant a new trial against the psychiatrist since the plaintiff did not name him as a defendant. Jury award is, therefore, set aside.

The plaintiff appealed.

Deliberations of the United States Court of Appeals, Third Circuit, Judge Biggs, are of great importance to medicine ; 247 F 2d 711 (1957). In their brief the plaintiff's attorneys, Edward O. Spotts, Melvin M. Belli, and Theodore M. Tracy argued on a different principle : the sanitarium advertised and the patient came there because of the reputation of the sanitarium whereas the psychiatrist's name was not even known to the patient. One legal opinion expressed⁸ was that an organization that advertises and operates for a profit carries a duty to provide good care whether via its employees or otherwise. (This brings the case under the law of warranty rather than the law of negligence.)

Judge Biggs stated (p. 719, *ibid.*) :

. . . (the psychiatrist) could be regarded as having the status of an independent contractor in his relation to (owners of) the sanitarium but in his relation to the patient would be deemed to be an employee of the sanitarium.

He further cited the precedent being established by decisions such as that of Judge Fuld in 1957 in *Bing v. St. John's Episcopal Hospital* (29) but without mentioning the minority opinion of Judge Conway who made a case for the small voluntary hospital which often operates at a loss year after year, and makes an important contribution to the community. The alternative would be larger state or business supported hospitals, not favored by Judge Conway.

Final action, United States Court of Appeals : Judgment reversed ; jury award of \$60,000 against owners reinstated.

B. Problems of Commitment :

Case 10. Daniels v. Finney 262 S.W. 2d 431 (1953). A psychiatrist was told by a wife in the company of a minister of the gospel that her husband was combative following her confession to adultery with a hired hand employed at the husband's dairy. The husband took her to confront the hired hand, shot him in the hand, administered a beating to his wife, and thereafter accused her at intervals of adulterous relations with his father, with negro men and forced her by beatings to admit that 2 of their children were not his.

The psychiatrist saw only a fleeting glance of the patient as he came by the office. On the history from the wife and minister, he diagnosed schizophrenia with paranoid trends, and gave a written statement to that effect to the wife, knowing that it would be used by her to have the husband committed.

The husband brought suit for malpractice, wrong diagnosis, and for malicious prosecution.

In order to demonstrate malpractice on a mistaken diagnosis, the testimony is required (p. 434, *ibid.*) "of a doctor of the same school of practice as the defendant" that diagnosis is in error.

Since the plaintiff failed to produce expert testimony to this effect, a directed verdict in favor of the psychiatrist was requested and granted.

The plaintiff appealed on the basis that no doctor-patient relationship existed in this situation and so the rule governing the proof necessary in malpractice was not applicable.

Final action : The Court of Civil Appeals, Galveston, Texas, held that suits for malicious prosecution are not favored by law and the plaintiff failed to prove lack of grounds to believe that patient was mentally ill. Directed verdict absolving the psychiatrist was sustained.

Cases 11, 12, 13, 14 and 15 constitute the remainder of this group, and they are all similar in that the examining physician enjoys an absolute privilege when acting as an

⁸ Belli, Melvin M. : Personal communication.

agent in court proceedings for commitment. All were absolved.

In 1900, Judge Morton presented the legal opinion very well in the often quoted case of *Niven v. Boland* (30), summarized as follows: It is not the examining physician, but the judge or clerk of the court that commits the patient. The physician is acting as a *quasi* official, or at least at the express request of the court. The privilege is a compromise between competing rights: the rights of the public to be protected, and the right of the individual to be protected against false statements, in which public rights are considered the more important. Furthermore, in order to arrive at true facts, the witness must feel free to speak without fear of being held liable (for malicious slander or false imprisonment).

Naturally, the appellate court judges make it very plain that the law does not sanction cursory examinations. In one of the above cases, both of the examining physicians (not psychiatrists) made a statement without having examined the patient at all. Such false statements are felonies, prosecutable under criminal law, and subject to exemplary damages as well as a fine or imprisonment.

Representative of these 5 cases from 11-15 is the following case:

Case 11. Bailey v. McGill 100 S.E. 2d 860 (1957). A patient suffering from hemophilia was given sedatives by the family physician over a protracted period. A mental examination for commitment procedure was done by 2 physicians, one of whom was a brother of the family physician.

Suit was brought alleging that the family physician maliciously perverted commitment proceedings to rid himself of a patient who was not responding to his treatment, that sedatives had been prescribed for a long period, and that the mental examination was cursory, i.e., 5 minutes of questioning without allowing the patient to come out of sedation to become mentally responsive. Suit was brought for \$100,000 compensatory damages and \$50,000 punitive damages.

Trial court granted demurrer in favor of all 3 physicians.

The Supreme Court of North Carolina upheld the demurrer for the examining phy-

sicians, but granted re-trial against the family physician.

Re-trial: Family physician was absolved.

C. Problems of Suicide:

Case 16. Tisinger et al. v. Wooley 50 S.E. 2d 122 (1948). A husband brought suit against both the sanitarium and psychiatrist for death from suicide by the wife and mother. The patient jumped from her seventh-floor room in the sanitarium. The plaintiff was unable to prove that a nurse was not in attendance at the time of the fatal action. The lower court absolved both the sanitarium and the psychiatrist. The plaintiff appealed against the referring physician only, alleging that he erred in selecting this hospital because of inadequate facilities to care for mental patients (a university hospital).

Final action: The Court of Appeals of Georgia ruled (p. 128, *ibid.*):

... it alleged that in the absence of a nurse certain things occurred, but it is nowhere alleged as a fact that the absence of a nurse was due to the defendant's ... negligence; it was not alleged that at the time of the tragedy there was no nurse or attendant assigned to the patient. The allegation that no nurse or attendant was assigned to constantly watch and guard the patient does not suffice. Failure to have the patient guarded at a time when failure amounted to nothing would not be actionable negligence if the patient was guarded at a critical time, and would not be negligence as to the defendant (i.e., referring physician) if a guard was assigned for duty by the hospital and neglected it.

Referring physician was absolved.

D. Miscellaneous:

Case 17. Gasperini v. Manganelli 92 N.Y.S. 2d 575 (1949). This case illustrates a variety of charges against which a physician may have to defend himself. The multiple allegations are enumerated with the legal opinion on each, by the Supreme Court, Queens County, New York.

Page 577, *ibid.*, "... defendant demanded \$8,350 ... for which he would render certain services; that he did not render such services." The court held: Physician is entitled to collect fees for services rendered if the patient is able to pay.

Psychiatrist started treatment upon referral from the family physician without obtaining psychiatric consultation. Court held: Absence of consultation was not negligent.

Psychiatrist allegedly forced the patient's wife to sign a statement that she would not interfere with the treatment either by the psychiatrist or the hospital. Court held: Allegation unsubstantiated.

Psychiatrist signed a written statement about the son but omitted "Jr." after the name. The father sued for libel and slander because the written statement was published by the son's wife. Court held: Absolute privilege of examining psychiatrist (see Case 11).

Psychiatrist filed a demurrer because one of the plaintiffs was mentally incompetent. The court held: There is provision by which suit can be brought; demurrer overruled.

Final action: Psychiatrist was absolved.

Case 18. *Bullock v. Parchester Hospital* 160 N.Y.S. 2d 117 (1957). Personal injuries sustained by a practical nurse hired to care for a cardiac patient when he threw a telephone and a glass both of which struck the nurse. This assault was attributed to psychosis resulting from fever and sedatives. The trial court awarded judgments, amount not stated, against both the physician and the hospital.

The Supreme Court of New York held that if the hospital and/or doctor did not know the patient would become combative they were not under a duty to warn the nurse of the danger. The wording of the decision suggests that the court would expect a higher duty of care from a psychiatrist.

Final action: The court absolved the hospital but granted a new trial against the physician. Physician's attorney, Solomon Z. Ferziger, wrote that the plaintiffs are not yet ready for the new trial, after 3 years, and predicted that failing to prosecute would most likely bar this case from re-trial.

V. Summary of Findings

In Chart 3 the 18 cases are rearranged in chronological order and the essential findings are summarized.

VI. Further Observations and Trends

In the first 10 years of this 15-year study, all the psychiatrists and hospitals were absolved. Only in the last 5-year period do the appellate courts begin to sustain the judgments against defendants.

Problems of therapy, especially shock therapies, still carry the greatest risks both as to psychiatrist and hospital.

A higher duty of care is expected of a psychiatrist in psychiatric matters in recent years as his talents are more frequently utilized in difficult medical cases as well as in legal and social problems.

Claimant's attorneys have been attempting in recent years to by-pass the law of negligence. Two such attempts are: 1. By invoking *res ipsa loquitur*⁹ (generally unsuccessful as attempted in psychiatric cases); or 2. Employing "unenlightened consent" or "breach of warranty" as the basis for claims by which the case devolves to the word of the patient against the word of the psychiatrist. Thus the need for expert testimony is by-passed.

However, a note in the patient's record describing the reasons for the course of treatment decided upon and outlining what was said to the patient, or relative, will be of great value in the physician's defense, provided that he uses due care according to the standards of usual practice in that community.

Hospitals are losing a certain degree of immunity from claims for damages which they enjoyed up until very recent years, contingent upon holding the hospital to a duty—a warranty—to provide competent employees.

COMMENTS

1. False assurance might be gained from the few, and the relatively low amount of awards among these 18 cases. It should be remembered that the more obvious errors, with resultant damage to the patient, are likely to be settled out of court and therefore do not appear in this series of appellate

⁹ *Res ipsa loquitur* lies within the law of negligence, but the manner in which claimant's attorney sometimes uses it constitutes an attempt to by-pass the law of negligence in some instances.

CHART 3
Chronological List of 18 Cases, Indicating The Year, Jurisdiction,
Nature of Claim and Action in Courts

YEAR	JURISDICTION	NATURE OF SUIT	TRIAL COURT	APPELLATE COURT	CASE NUMBER
1946	Tennessee	Fracture, negligence	Absolved—Ho * Allow appeal—Ps	Absolved—Ps	4
1948	Georgia	Suicide in Ho	Absolved—Ps, Ho	Sustained	16
1949	New York	Multiple misc.	Absolved—Pn	Sustained	17
1953	New York	Shock; negligence	Award : Pn, Ho Absolved—Ps (amt. unknown)	Reversed : Re-trial—Ps (absolved)	8
1953	California	Unauthorized consent	Absolved—Ps	Sustained	3
1953	Pennsylvania	Injuries, wet pack	Awards—Ps, Pn, Ho (amt. unknown)	Absolved—all	2
1953	Mass.	Examination negligence	Absolved—Pn	Sustained	12
1953	Texas	Diagnosis from history by wife	Absolved—Ps	Sustained	10
1956	U. S. (Penn.)	Wrongful death	\$60,000—Ho	\$60,000—Ho	9
1956	New York	After fracture, shocks contin.	\$ 5,000—Ps \$25,000—Ho	Re-trial (settled out of court, amt. unknown)	7
1956	Maine	Examination negligence	Absolved	Sustained	13
1957	New York	Cardiac patient assault nurse	Awards—Pn, Ho (amt. unknown)	Absolved—Ho Re-trial—Pn (still pending)	18
1957	N. Carolina	Examination negligence	Absolved—Ps, Pn	Sustained	11
1958	U. S. (Dist. Col.)	Warranty of no danger	Absolved in pre- trial hearing	Trial granted Absolved—Ps	5
1959	New York	Alleged assault	Absolved—Ps	1st : Sustained 2nd : Reversed, Re-trial (pending)	1
1959	Maine	Examination negligence	Absolved—Pn, Ho	Sustained	14
1959	U. S. (Ohio)	Examination negligence	Absolved	Sustained	15
1960	Missouri	Warranty of no fracture	\$15,000—Ps	Re-trial granted (still pending)	6

* Code : Ps=Psychiatrist.

Pn=Physician (i.e., not a member of APA nor a diplomate of American Board of Psychiatry and Neurology).
 Ho=Hospital or sanitarium.

court cases.¹⁰ To the psychiatrist against

¹⁰ The policy of the A.M.A. is expressed in a statement endorsed by their "House of Delegates" in 1957 as follows: "In the interest of the public as well as the profession, physicians who have demonstrated that they are careless, incompetent, or unethical in the treatment of patients should be dealt with effectively through medical society, state licensure and hospital disciplines to prevent the recurrence of patient injury." The APA ascribes to this same policy.

whom an award has been made, it is of small comfort to know that he is in a low risk group in medical practice.

2. Doctors and hospitals did not reply to my letters, although all that was requested was further details on a matter already published for public knowledge. If physicians and hospitals became aware of their legal prerogatives would they still be as wary? In Case 5, the plaintiff's attorney wrote to

me that he would not have brought the case to court if the psychiatrist had answered his letters (although we do not know exactly what the psychiatrist or his counsel was requested to answer). Who can tell how big a price the physician or hospital owner may be paying when he fails to communicate with colleagues or legal counsel in areas of mutual concern? For years the physician has utilized the advantages that accrue from preventive medicine and it is hoped that this paper may encourage the utilization of "preventive law."

3. Generally, the courts have demonstrated sincere interest and considerable energies directed toward seeking justice in most, if not all, of these cases. In many instances the courts grasped the nature of particular problems confronting the psychiatrist, and have made some allowances.

4. Nevertheless, I believe that in these 18 cases there can be seen 2 areas of ambiguity in the law from which potential injustice to the physician might accrue. Both, closely related, pertain to renewed attempts on the part of some attorneys to by-pass the law of negligence and will be discussed together.

(a) An implied promise of cure invites a claim for alleged breach of warranty (cases 5 and 6).

(b) Suit for assault and battery may be brought for alleged unenlightened consent. The contention of the law is that if the patient did not possess sufficient knowledge upon which to base an intelligent consent, this amounts to no consent, and the physician has "assaulted" the patient.

In Case 6, a statement is quoted by McCoid which Judge Barrett advances as clear instruction to the physician concerning his duty to the patient as regards enlightened consent. However, I believe that the qualifying phrase "... in so far as possible ..." unequivocally leaves the matter within the discretion of the treating physician. I believe this is as it should be.

It is tempting to declare that if the law is to expect from the physician a "higher duty of care," it must provide a "higher duty of instruction." But can the law do this?¹¹

¹¹ Mr. Howard Hassard gives one legal opinion (personal communication) that with each new trend in the law, it takes time before the ground

If the law could do so, would not medicine become less of a profession? For a physician, who is a member of a profession, to carry discretionary powers is not asking too much.

Ethics are closely related to the law. I believe that the issue discussed above emphasizes the constant need for the physician to be thoughtful of his patient's individual needs, to exercise his best skill, good judgment and fine discrimination at all times, and to be tactful and considerate with each patient, including his relatives. Good judgment can not be legislated.

CONCLUSIONS

It is remarkable that this small series of clinical-legal psychiatric cases reflects nearly all the legal trends relating to malpractice found within high risk groups in medical practice: eminence is no protection against being sued for negligence; the courts are expecting a higher duty of care from the psychiatrist as the specialty gains status in the eyes of medicine and law; awards are beginning to appear against psychiatrists, and in increasing amounts; claims on the basis of unenlightened consent and breach of warranty are beginning to appear; the law of warranty, generally, is being applied in more cases; and the relative immunity from negligence action formerly enjoyed by hospitals (including charitable organizations) is rapidly being lost, if recent court decisions continue to prevail.

ACKNOWLEDGMENTS

I am indebted to attorneys Howard Hassard and Salvatore Bossio for guidance and help in presenting complexities of the law of tort and to attorney Philip Anderlini, not only for culling the 18 cases out of the 500 references, but for his helpful discussions on legal points encountered.

I am grateful to Dr. Karl M. Bowman, Dr. Bernard L. Diamond and Dr. Bernard I. Kahn for their generous suggestions relating to psy-

rules are worked out. During the period of transition the attorney is not able to give his client the definite counsel that he would prefer. For a complete treatise on medico-legal problems, the recent book by Louisell and Williams (31) is highly recommended. This comprehensive book has already supplanted previous treatises to become the current basic guide for malpractice law.

chiatric and medical aspects of this paper as well as certain legal points involved.

I also wish to express my appreciation to the following attorneys who entrusted me with carefully prepared briefs of continuing value to them in their office practice, and for important follow-up information submitted by them: *Case 1*, Harry A. Cair and Benjamin H. Siff on the brief for Martin, Clearwater & Bell; *Case 2*, Harold A. Butz and Harry F. Hoffman; *Case 4*, Walter P. Armstrong, Jr.; *Case 5*, Cornelius H. Doherty; *Case 6*, A. C. Popham, Jr., with Popham, Thompson, Popham, Trusty & Conway for plaintiff, and Henry W. Buck, John R. Gibson with Morrison, Hecker, Buck & Cozad for defendant; *Case 7*, Bondy & Schloss; *Case 8*, Joseph J. Brophy; *Case 9*, Harold E. McCamey and Milton W. Lamproplos for defendants and Edward O. Spotts, Melvin M. Belli and Theodore M. Tracy for plaintiff; *Case 10*, Hall E. Timanus and Robert L. Bradley; *Case 11*, B. T. Falls; *Case 12*, Gerald P. Walsh with Walsh & Bentley; *Case 13*, Jerome G. Daviau; *Case 17*, Irving Leppard; and *Case 18*, Solomon Z. Ferziger.

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DISCUSSION

G. WILSE ROBINSON, JR., M.D. (Kansas City, Mo.).—I have a personal interest in Dr. Bellamy's paper because I am Case No. 6. For further information, this case was retried on April 10, 1961 and the jury unanimously found for the defense. Thus Case No. 6 joins No. 5 as a victory for the defendant psychiatrists, where failure to tell patient of potential danger was the point of issue.

Unlike Case No. 5, the plaintiff's word in the first trial was considered more likely to be true than that of the 2 psychiatrists. In the second trial, where there was only one issue, namely: did we tell the plaintiff that there were dangers, the jury believed that we did. The results may be appealed and Dr. Bellamy may have one more case for his records.

I wish to add that I also qualify as Case No.

X and Case No. Y, not included in this report. In 1952, we lost the case of Stallman vs. Robinson, a suicide case. The judgment was \$9,000 to the husband of the deceased. It was appealed and our Supreme Court ruled that it was a jury matter and refused to act. Our Supreme Court differed from the Georgia court in Case No. 18. The problem in this case was that in Missouri, suicide of a mental patient is not a matter of malpractice but a matter of public liability. This was established in the courts over 40 years ago.

In 1958 the case of Gregory vs. Robinson was tried. In this case, a man rushed through the door as my associate, Dr. Hines, was leaving our maximum security ward, ran down a half-flight of steps and dropped out a window 3½ floors up, to a concrete driveway. He suffered multiple fractures and many other injuries which for some reason not yet understood were not fatal. The jury awarded \$35,000 but the trial judge ruled that he could find no liability, reversed the jury and found for the defendants. The plaintiff appealed. At the first hearing before a panel of the Supreme Court, the panel voted 2 to 1 to reverse the trial judge. But the minority opinion of one was so strong that our attorney requested a hearing before the full court and they sustained the trial judge 5 to 1. One of the two changed his mind in the interim.

So I have, as far as our appeal court is concerned, one win, one loss and one draw, a record not as good as Dr. Bellamy's combined 18 cases.

While these 3 cases alone might qualify me for the unenviable position of being the most sued psychiatrist in the United States, there was also a fourth case that never came to trial. A very interesting side issue in these matters is that I never saw 3 of these plaintiffs nor did I talk to the families. In the other case I saw the plaintiff patient only for a ½-hour. My

associates and partners took care of these patients and I had no professional contact with them. My associates and partners were not negligent in these cases, but the plaintiffs thought so.

The point is that as senior partner I was considered responsible for the actions of my associates, even though I had never seen the patients. This is an important point to be remembered by every senior physician. The senior officer in every organization is legally responsible for every act of his juniors, both of omission and commission.

Dr. Bellamy has pointed out that these suits may be increasing in number and certainly judgments against the defendant psychiatrists are increasing. It behooves every psychiatrist to take a good hard look at his own *modus operandi* and the techniques of his associates and juniors and to bring them into conformity with modern legal practices. Things that were acceptable 20, or even 5 years ago, are no longer so in today's courts. Every established psychiatrist who has never retained an attorney to advise him as needed has a fool for an advocate.

We are no longer immune. We are considered in the eyes of the layman to be business men and, as such, we are responsible to the law.

The Mitchell decision by the Missouri Supreme Court, Case No. 6, and a similar one in Kansas, have created considerable consternation in medical circles throughout the country. We made the front page of the *A.M.A. News* and have been referred to in several papers. Many doctors have interpreted these decisions to mean that we must go into all the gory details of all possible complications. This is not true.

Dr. Bellamy is to be congratulated for bringing this problem to our attention and for organizing his material so well.

EVIDENCE FOR A CONGENITAL FACTOR IN MALADJUSTMENT AND DELINQUENCY

D. H. STOTT, M.A., Ph.D.¹

The discrediting of Lombroso's theory of a hereditary atavism as a factor in criminalism and the genetic implausibility of the simple inheritance of lawbreaking behaviour have led to the assumption that "constitutional" or congenital factors may be discounted. This approach has been strengthened by the tendency over the past generation to write down the instinctive elements in human behaviour.

The reopening of the question of innate propensity to delinquency requires first a clarification of the concepts and terms used. "Inherited" implies that the phenomenon appears as the fulfilment of a process of development prescribed by the genetic constitution of the individual, as determined at the fertilization of the ovum. On the other hand, "congenital" merely implies that the antecedents of the condition date from birth or before. That is to say, it embraces factors operating during gestation or delivery. It does not exclude hereditary factors: in effect there is an authoritative body of work in experimental biology showing that the manner and extent of prenatal insult depends upon the genetic constitution both of the foetus and of the mother (Landauer and Bliss 1946, Clarke Fraser, *et al.*, 1954). A genetic tendency to a particular malformation may thus become manifest only under conditions of gestational stress; this form of interaction between hereditary and environmental factors has been named *facilitation* (Malpas 1937). The facilitation of hereditary tendencies to behavioural abnormality has not been demonstrated, but there is no reason to suppose that it is an exception.

In view of the close association in human beings of mental defect and behaviour disturbance there can be no doubt that the latter may also be congenital. One type of personality defect—that of "unforthcomingness" or impairment of motivation—has been found to be related to stress during the

pregnancy, and in particular to such as occurred during the later months (17, 18). Disorganized motivation was similarly found by Pasamanick and co-workers (8) to be related to complications of pregnancy. Thompson (22) found that the offspring of rats subjected to anxiety during pregnancy suffered from poor motivation analogous to "unforthcomingness."

The careful observational study of the behavioural concomitants of brain damage by Gollnitz (5, 6) is of importance for the concept of a congenital propensity to delinquent breakdown. Among the forms of personality defect characteristic of such children he mentions tendencies to excitability, overreaction to unfavourable conditions, impulsiveness, failure of the inhibitory mechanisms, loss of motivation and of neural stamina.

In a study of the motivation of delinquent acts among approved-school boys in Britain the writer (13) distinguished 5 "immediate impulses or states of mind which drove the boy to commit his offences." These were avoidance excitement, or a retreat from unbearable anxiety into substitute emotions; hostility arising from feelings of being rejected; delinquent attention—the testing of parental loyalty by delinquency rather than continuing in a state of insecurity; a removal urge, or flight from the anxiety creating situation usually taking the form of the commission of offences with the unconscious purpose of being "put away"; and inferiority compensation arising from feelings of being unwanted. The main conclusion of this study was that "delinquent-breakdown is an escape from an emotional situation which, for the particular individual with the various conditionings of his background, becomes at least temporarily unbearable." At the time this study was made the writer recognized that individual children may react differently to similar environmental vicissitudes, but, along with the general opinion of the time, regarded these individual differences as arising from

¹ Psychology Department, Glasgow University, Glasgow, Scotland.

varied childhood experiences. On the other hand Burt insisted upon a factor of temperament or general emotionality which was innate, upon which, however, he did not elaborate. From the more recent studies by Göllnitz and others quoted above it would seem to follow that a child who has suffered congenital impairment of temperament would be more likely to find family insecurity of a given degree unbearable than a child of stable and robust temperament. Among the forms of breakdown (hostility, anxiety displacement and avoidance, flight from the situation, *etc.*) many would lead to lawbreaking. Thus it is plausible to argue that certain children, by reason of congenital damage of temperament, have been rendered delinquency prone. It should also be mentioned that the hypothesis put forward by Bowlby(1), that early separation from the mother often had the effect of making the child an "affectionless character" and thus delinquency prone, was not confirmed in the later study(2). The present writer found no preponderance of the sort of maladjustment which might be termed antisocial behaviour among children who had been in hospital during their first 2 years of life(17, 18). It can no longer be lightly assumed, therefore, that proneness to behaviour disturbance is the result of a faulty postnatal conditioning, and the possibility of congenital factors, even among children of normal mental ability, must be considered.

The difficulties involved in establishing the congenitality of behaviour disturbance are nevertheless very great. In the individual case the likelihood of such is strengthened if some sort of abnormality of behaviour, not necessarily of the type observed in the later childhood, is reported during the first months of life and continuously thereafter. If the behaviour disturbance is seen as part of a syndrome either of pregnancy, multiple impairment(15)—mental subnormality, susceptibility to common infections, delayed growth, congenital malformation—or of brain damage—epilepsy, motor impairment, strabismus, speech defect, organic dysfunction, failures of homeostasis—its organic origin (or congenitality in the absence of postnatal trauma) is rendered more likely. The present article,

however, is concerned with general epidemiological evidence for a congenital factor in the behaviour disturbance of boys nearly all of whom would be within the normal range of intelligence and attending state schools.

From an analysis of official records of boys and young men appearing before the courts in England and Wales between 1949 and 1957, Wilkins (1960) showed that those born between 1935 and 1942 had a heightened delinquency proneness. The percentages by which the crime rate for each 2-year group was greater or less than the expected rate are shown graphically in Figure 1. It is seen that the rates for females follow closely that for males, except at the extremes where the rate would be based on a single year at risk. Since the official returns merely reported that a child was so many years old at the time of the court appearance, which could occur at any time of the year, the dates of birth had to be given in the 2-year spans.

The figures as calculated by Wilkins for all age groups give the impression that the wartime influence operated at its maximum postnatally, while the children were between 3 and 7 years old. Closer examination of the figures shows that the higher rate among those males born between 1935 and 1938 inclusive is accounted for almost entirely by their greatly increased delinquency proneness when they were 18 to 21 years old. It is hardly feasible to attribute such a late adolescent outbreak of unsettledness to the events of early childhood. With this view Wilkins agrees, pointing out that the phenomenon amounted to a greater tendency to crime among older adolescents during the years 1954-7. This was in fact the height of the "Teddy Boy" period, and the truth may be that this style of dress, which became associated in the popular mind with criminalism, led to more stringent measures being taken by the police and a consequent rise in convictions of older youths during this period. (There was also an anomalous fall in the crime rate for 8-year-old offenders from 1952 onwards which was quite evidently due to a tendency to deal with such children under "fit person" orders or otherwise under the Children's Committees rather than

FIGURE 1



bring them before the court.)

The effects of early neural lesion tend to lessen over the years of the childhood, especially when the damage or maldevelopment is relatively mild. If, therefore, congenital damage or other impairment is a factor in delinquency one would expect this to be most evident among younger delinquents. To test this hypothesis the present writer recalculated from Wilkins's tables the percentage divergence from the expected rates separately for males between their 8th and 14th birthdays, and from then until their 21st. The results are shown in Figure 2. (It was not possible to do the same for females as Wilkins does not publish the detailed tables for them.) It is seen that for the 14-21 year group there is no tendency at all for those born during the war years to be more delinquency prone; the greater proneness of the 1935-7 group has already been explained. For the younger group the rate for the years 1935-7 years was below expectation. That the rise for them seems to begin, even though in a small way, during 1937-8 is understandable when it is borne in mind that about half of these delinquents would have been

born during the latter year, which was one of semi-war conditions. The peak period of 1940-1 corresponded to the worst period of the war as far as Britain was concerned. And whereas the peak rise above expectation as calculated by Wilkins for the whole age range of 8-21 years was only 11.6%, that for the 8-14 year group was 39.3%. This points to a much more specific influence confined to children born under severe war conditions. Such a distribution is therefore consistent with the hypothesis that the greater delinquency proneness of males born then was due to their having suffered congenital impairment of temperament.

This hypothesis would be strengthened if it could be shown that other elements of the pregnancy/multiple impairment syndrome have been found more frequently among children born during the above years. In Britain relevant studies of the incidence of congenital malformation have been made by MacMahon, Record and McKeown(9); they found that the rates for anencephaly and spina bifida in Birmingham hospitals rose sharply during 1938-9, reached their highest level during

FIGURE 2

Re-calculated from Wilkins 1960.

DELINQUENCY PRONENESS

by year of birth.



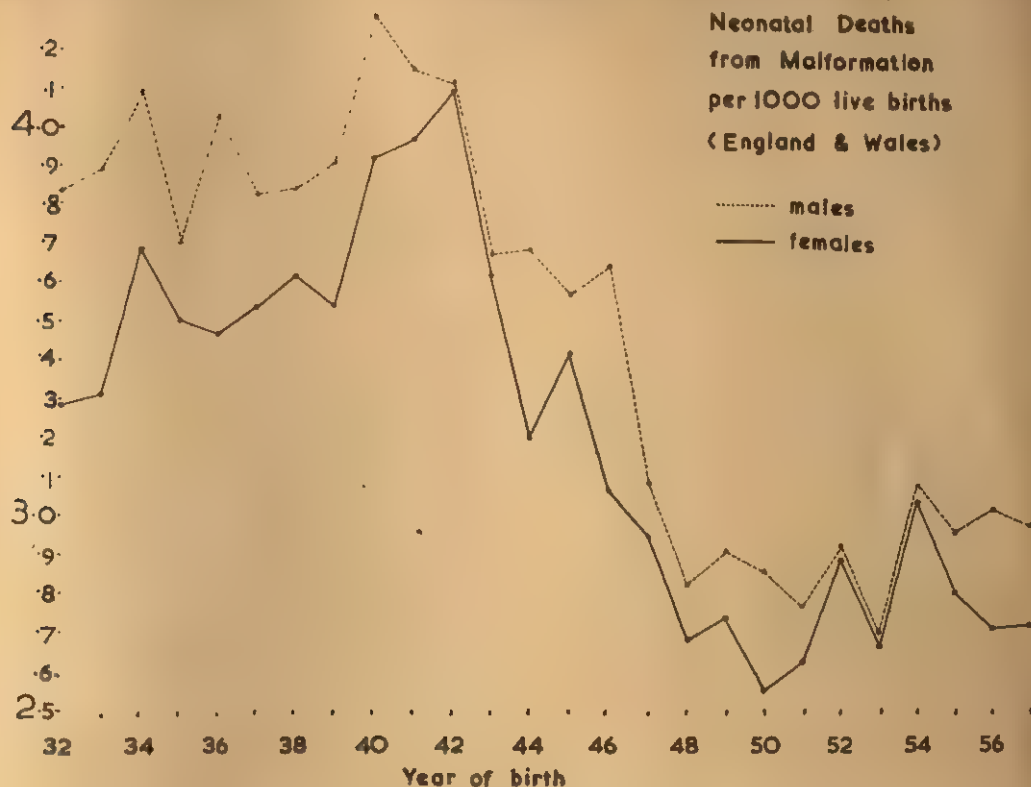
the years 1940-1943, and fell thereafter steadily to below the prewar level. They pointed out that this wartime rise could not be explained by any general change in the birth rank of the children born during these years. It is outside the scope of the present article to attempt any explanation of this phenomenon. Nevertheless it may be significant that the peak years for these malformations were the worst years of the war for England, especially as regards bombing; the same authors show that in Scotland, where there was very little bombing, there was no significant rise, but only the postwar fall possibly reflecting a general rise in living standards. To obtain a more general picture of the incidence of malformation during the war years over the whole of England and Wales the present writer has calculated from the yearly totals published by the Registrar General the death rates from malformation of infants during their first 4 weeks of life per 1000 births of each sex. These are shown graphically in Figure 3. The peak during the

early war years is very similar to that of delinquency proneness in boys from 8-14 years as seen in Figure 2; since the malformations were congenital, this similarity makes more feasible a congenital origin for the delinquency proneness.

If the behaviour disturbance of which delinquency is a feature has in part a congenital origin, one could postulate, on the basis of a syndrome of pregnancy/multiple impairment, that disturbed delinquents would be more likely than the stable to suffer physical ill health, defect or abnormalities of growth. Ferguson(4) found significantly more undersized boys in his delinquent group compared with his controls, even among those coming from good standard homes. Of this he could offer no explanation, the observation that delinquents tend to be shorter in stature being previously attributed to their coming from underprivileged social groups.

The study of those boys put on probation during 1957 in Glasgow(19, 20) offered an opportunity for testing this relationship be-

FIGURE 3



tween behaviour disturbance and physical inadequacy. The former was assessed by the Bristol Social Adjustment Guides (14, 16) filled in by the school teachers. These

showed that some 46% of the probationers, but only 7.7% of the controls, were maladjusted. The criterion for maladjustment was 20 or more adverse behavioural indications.

TABLE 1
A. Probationers

	Score on Bristol Social Adjustment Guides (high for poor adjustment)			χ^2 n=1	P	Ratio % (10+) % (0-9)
	0-9	10-19	20 or over			
Total in group (414)	98	128	188			
No. with respiratory disease	9 9.2%	22 17.2%	61 32.5%	12.69	<.001	2.86
No. with other ailments	9 9.2%	18 14.1%	46 24.5%	6.31	<.02	2.21
No. with physical defects	5 5.1%	6 4.7%	27 14.3%	2.36	not sig.	2.05
No. with bad eyesight (other than squint)	5 5.1%	14 10.9%	29 15.5%	5.30	<.05	2.67
No. with growth abnormality	6 6.14%	13 10.2%	27 14.4%	3.24	not sig.	2.06

Between 10 and 19 indications were held to indicate "unsettledness," and 0-4 stable personality. The intermediate zone of 5-9 was also regarded as within the normal range.

Data as to physical ill health, defect and abnormality of growth were similarly provided by the schools. Similar information was obtained for control boys born on the same or nearest dates attending the same schools. Ill health was grouped under two main headings, "respiratory disease" and "other ailments." "Physical defects" covered squint, bad hearing, poor co-ordination, spastic conditions, speech defect, congenital

malformation. "Bad eyesight" included all forms of such, apart from squint, of which the school had knowledge. "Abnormality of growth" included all boys marked by the teacher as "diminutive, very fat, very thin." As with the physical illnesses and defects no child was counted more than once in this general category even though both "diminutive" and "very thin."

The number of children affected within each category and the percentage incidence by social adjustment grades is given for the 414 probationers and 404 controls in Table 1 and Figure 4. Since the first significant differences uniformly occur from

B. Controls

	χ^2 n=1*			P	Ratio % (5+) % (0-4)
	0-4	5-9	10 or over		
Total in group (404)	186	104	114		
No. with respiratory disease	17 9.1%	21 20.2%	26 18.1%	11.61<.001	2.37
No. with other ailments	9 4.8%	13 14.2%	18 15.8%	9.91<.01	2.94
No. with physical defects	8 4.3%	8 7.7%	19 16.7%	8.30<.01	2.88
No. with bad eyesight (other than squint)	11 5.9%	13 12.5%	10 8.8%	2.81 not sig.	1.79
No. with growth abnormality	6 3.2%	8 7.7%	17 14.9%	9.64<.01	3.55

C. Probationers and Controls

	0-4	5-9	10-19	20 or over	χ^2 n=2*	P
Total in group (818)	231	157	213	217		
No. with respiratory disease	21 9.1%	26 16.6%	40 18.8%	68 31.3%	36.60	<.001
No. with other ailments	13 5.6%	18 11.5%	28 13.2%	55 25.4%	37.53	<.001
No. with physical defects	8 3.5%	10 6.4%	16 7.5%	31 14.3%	18.96	<.001
No. with bad eyesight (other than squint)	12 5.2%	17 10.8%	22 10.3%	31 14.3%	10.46	<.01
No. with growth abnormality	10 4.3%	10 6.4%	25 11.7%	32 14.8%	14.25	<.001

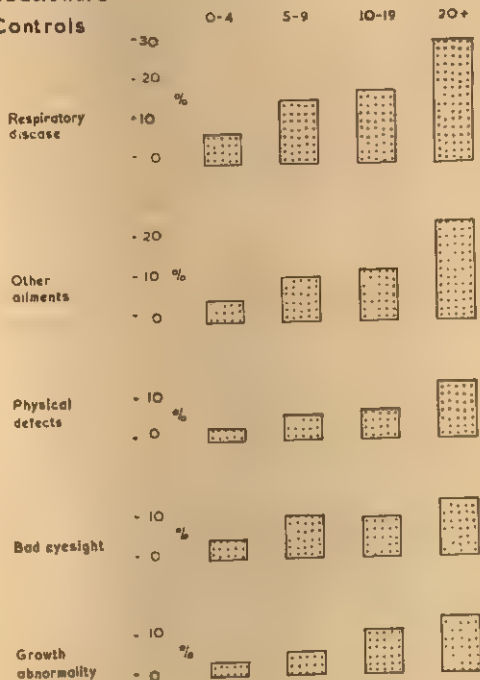
* Social Adjustment Scores grouped as follows:
probationers, 0-9 and 10 or over,
controls, 0-4 and 5 or over,
both combined 0-4, 5-19, 20 or over.

FIGURE 4

Behaviour Disturbance and Physical Conditions

Probationers
& Controls

Bristol Social Adjustment Guide Scores



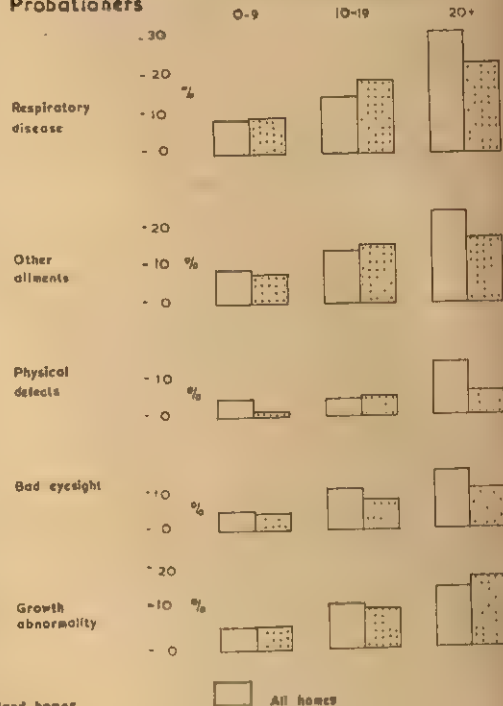
Adequate standard homes

FIGURE 5

Behaviour Disturbance and Physical Conditions in Homes of Adequate Standard Only

Probationers

Bristol Social Adjustment Guide Scores



All homes

a social adjustment score of 10 for probationers but of 5 for the controls, different groupings are used for each, but for both combined the 0-4 and 5-9 categories are shown separately.

It is seen that the incidences of all the above conditions rise consistently with the number of symptoms of behaviour disturbance. The tendency is equally apparent in the delinquents and in the controls, and with both combined the trends are highly significant. Even where for each group separately the χ^2 falls below the level of formal significance, this is due to insufficient numbers. The last column in each table gives the relative proportion of boys affected above and below the critical social adjustment score (e.g., for the probationers the percentage incidence of the defect found at a score of 10 or more divided by that found between 0 and 9). Only in one instance—that of bad eyesight among the controls—is the defect less than twice as frequent among the poorly adjusted.

Before these associations between physi-

cal conditions and behaviour disturbance can be accepted as evidence of a congenital factor in the latter, some alternative explanations must be considered. The first is that inadequate living conditions or cultural background were the common factor. In so far as such tended to produce congenital damage in the form of malformation or impairment of health and growth, and also congenital neural impairment likely to produce behavioural aberration, this would be in accordance with the hypothesis. The true alternative would be that poor living conditions rendered these boys unhealthy, etc., and also maladjusted, postnatally.

In order to have the basis for an objective assessment of the cultural grouping, in the anthropological sense, to which the family of each probationer belonged, the probation officers were asked to mark a schedule based upon the sorts of cultural indications to which Spratt, Jephcott and Carter(11) drew attention. This, in fact, tallied closely with a classification of cultural group earlier used by the present

writer, which gave 4 categories :—

I Home unkempt and dirty, family living fecklessly from hand-to-mouth.

II Family are getting along on a low standard, "instinctual" mode of life.

III Family maintains "respectable" working-class standards but does not aspire to rise in social scale.

IV Standard conscious and socially aspiring.

Groups I and II may be described as having inadequate, and groups III and IV adequate, standards of hygiene, home management and budgeting. A family was placed in a cultural category either when the majority (5 out of a possible 9) of the indications fell in one of the above 4 categories. Any remaining unclassified were treated as "inadequate" if 7 indications fell in I and II, or if all 9 fell in I, II and III; the "adequate" grade was composed of those families qualifying for III or IV or a combination of the two. Within the latter were 231 probationers, and the above associations were calculated for them alone, thus eliminating the factor of adverse living standards. Comparison of Table 2 with

observed among probationers irrespective of social group. It is somewhat less marked for the two categories of ill health, although the ratio of poorly to well adjusted boys affected remains above 2:1. There were remarkably few physical defects among the "adequate" group, but these were concentrated among the behaviourally disturbed, which is consistent with the hypothesis that both the physical defects, and the behaviour disturbances were mainly the result of prenatal factors. The percentage incidences of the various physical conditions for all probationers and for those living in an adequate social environment are illustrated in Figure 5.

A second alternative explanation might be that the behaviour disturbance represented a compensation, on Adlerian lines, for the inferiorities and frustrations generated by the physical impairments. That such reactions are sometimes observed cannot be denied, and indeed the teachers completing the Bristol Guides described two typical cases in their supplementary notes.

TABLE 2
Probationers Living in Homes of Adequate
Social Standard

	Score on Bristol Social Adjustment Guides			Ratio % (10+) / % (0-9)
	0-9	10-19	20 or over	
Total in group (231)	62	77	92	
No. with respiratory disease	6 9.7%	15 19.5%	22 23.9%	2.26
No. with other ailments	5 8.1%	12 15.5%	16 17.4%	2.06
No. with physical defects	1 1.6%	4 5.2%	6 6.5%	3.68
No. with bad eyesight	3 4.8%	6 7.8%	10 10.9%	1.96
No. with growth abnormality	4 6.4%	7 9.1%	16 17.4%	2.12

Table 1 shows that there is a generally lower incidence of ill health among the probationers coming from the "adequate" or superior homes. But within this group the tendency for poorly adjusted boys to suffer from the above physical conditions holds good, and is of the same order as that

The first was of a mentally subnormal boy of 12½ who was a cripple as a result of cerebral palsy. His class teacher wrote of him: "This boy is pathetic in his desire to get on, in spite of both mental and physical handicap . . . Equally pathetic is his desire to play football—and to do so as well as the strongest, most fit

boy." Not only was he not delinquent, but was rated as "very stable" on the Bristol Guides, the only two adverse behavioural indications marked for him being "over-eager to greet" and "very anxious to do jobs," which by themselves would not suggest unsettledness. The second boy, of 15 years, was also mentally subnormal, and unable to play any ball games owing to his poor muscular co-ordination. He reacted rather differently, by avoiding the frustrating situation, but compensated by serving as secretary to the school football club. With a total adverse score of two items of "unforthcomingness" he was also rated as "very stable."

It would seem, then, that if there are no other elements of instability present the feelings of frustration are kept within the limits of normality. Since the Bristol Guides are not framed to differentiate the various types of good or satisfactory adjustment, such compensations would not be detected by them and so would not enter into the scores for poor adjustment with which the physical impairments were found to be associated.

Inferiority compensations may however take a pathological form; in this case they appear in the Guides in the XC syndrome (anxiety for approval of and acceptance by other children), typical items in which are: "Can't resist playing to the crowd," "Braggs to other children," "Damage to public property," "Foolish pranks when with a gang," "Follower in mischief." This type of behaviour disturbance was represented by only 15 out of the 161 adverse items. Table 3 shows that these tended to be less associated with ill health than some other types of behaviour disturbance, in that the pro-

portion of unhealthy children showing XC (24.1%) was below the mean incidence (31.0%) for all syndromes. Inferiority compensation could therefore hardly be the reason for the association in question.

A third explanation is that the stresses of the maladjustment sometimes took a psychosomatic form. The extent to which this can be a cause or part cause of respiratory and other ailments is not known. The common attribution of a psychosomatic origin to asthma is founded on the clinical observation of its frequent association with anxiety, tenseness and other abnormalities of behaviour and motivation. Since a common congenital origin of both conditions is seldom entertained, the assumption is made that the abnormality of personality is primary and the disease secondary. But asthma conforms to a well-established pattern for non-lethal congenital defect in that it is strikingly more prevalent among boys than among girls (10). Moreover, it would be less plausible to argue a psychosomatic origin for physical defects such as squint, poor co-ordination, deafness, bad eyesight and congenital malformation, or for abnormalities of physical growth, and these have been seen to be as closely associated with behaviour disturbance as the respiratory and other diseases. In short, the psychosomatic explanation only fits some of the associations, whereas the congenital explanation is consistent with them all, and is therefore to be preferred on grounds of parsimony. It may be added that respiratory and other common ailments, and abnormalities of growth in early childhood, have been found

TABLE 3
Physical Conditions and Type of Behaviour Disturbance

	Boys with four or more items marked in any syndrome (probationers and controls)						
	U*	D	W	XA	HA	K	XC
No. with some ill health (respiratory + other ailments)	27	77	19	21	43	62	22
Per cent of all scoring 4+ in each syndrome	22.0	45.6	47.5	36.2	35.5	28.6	24.1

* U=Unforthcomingness, D=Depression, W=Withdrawal,

XA=Anxiety for adult affection and attention,

HA=Hostility to adults, K=Indifference to adult affection and approval, R=Restlessness,

XC=Anxiety for attention and approval of other children.

One boy may qualify for more than one syndrome of behavior disturbance.

to be significantly related to pregnancy stress both among mentally normal and subnormal children(15).

In an earlier publication in which an association between maladjustment and ill health was reported the writer(14) explained this on psychosomatic lines, on the basis of the observation that depression, *i.e.*, neurophysical exhaustion, tends to accompany other types of maladjustment. Such seemed particularly to be the case with the highly emotional types, hostility and anxiety, characteristic of delinquency. In Table 3 it is seen that nearly half (45.6%) of the considerable number of depressed boys suffered some kind of ill health, and that this, apart from the small number of the withdrawn, was considerably higher than for any other behavioural syndrome. It might therefore be that neurophysical exhaustion accounted entirely for the greater prevalence of ill health among the maladjusted. To test this possibility, all boys showing 4 or more items indicating depression were excluded from the figures given in Table 1C. From the resulting Table 4 it

separately. It is therefore reasonable to conclude that the element of exhaustion in certain types of behavior disturbance does not in the main account for the greater liability of maladjusted children to ill health. Even less feasibly could it explain the physical defects and abnormalities of growth. One can never be sure that every alternative explanation has been considered because of the inevitable imperfections of knowledge; but it would seem as if the hypothesis of a factor of congenital impairment common to the behaviour disturbance and the physical conditions is the only one at present available which explains the above data.

It remains in parenthesis to consider whether, if the association between behaviour disturbance and the physical conditions makes a common congenital origin likely, one can infer a congenital factor in delinquency as such. The association between delinquency and other types of behaviour disturbance is so close(19, 20) that the two cannot be separated. (Only 23% even of probationers, who were mostly first

TABLE 4
Probationers and Controls
(Excluding those with 4 or more indications of depression)

	0-4	5-9	10-19	20+	χ^2 d.f. = 2 *	P
Total in group	230	155	160	105		
No. with respiratory disease	21 9.1%	26 16.8%	28 17.5%	28 26.7%	17.52	<.001
No. with other ailments	13 5.7%	17 11.0%	19 11.9%	22 21.0%	17.88	<.001

* Social Adjustment Scores grouped as follows:
probationers, 0-9 and 10 or over,
controls, 0-4 and 5 or over,
both combined 0-4, 5-19, 20 or over.

is seen that the incidences of both respiratory and other ailments still increase consistently with the severity of the behaviour disturbance. The rise in each case between the stable (0-4) and the maladjusted (20+) is not quite so steep as when the depressed boys are included, so that a slight psychosomatic factor can be allowed. Nevertheless, the association remains significant at a risk of less than 1 in 1000 in respect of respiratory and other illnesses

offenders, were of reasonably stable personality.) Nevertheless, it is useful to set out the incidence of the physical conditions among the delinquents and controls respectively (Table 5). Only "respiratory disease" and "other ailments" are significantly more prevalent among the delinquents; but the others, except for physical defects, show a degree of preponderance of the same order which is not significant because of the small numbers. The exception may be due

TABLE 5
Physical Conditions in Delinquents and Controls

	Delinquents		Controls		χ^2	Relative incidence del./controls
	No.	%	No.	%		
Respiratory disease	92	22.2	64	15.8	5.34 $p < .05$	1.38
Other ailments	73	17.6	40	9.9	6.31 $p < .02$	1.78
Physical defects	38	9.2	35	8.7	not sig.	1.06
Bad eyesight	48	11.6	34	8.4	not sig.	1.38
Growth abnormality	46	11.1	31	6.7	not sig.	1.66

to the disadvantages which boys who suffer from poor co-ordination, spastic conditions, deafness or speech defects would find in delinquent activities or in planning such with other boys. The lower associations in general are a reflection of the fact that not all delinquents, especially first offenders put on probation, are disturbed individuals.

The above conclusions are in agreement with the much greater concordance of certain types of mental disorder—schizophrenia, manic-depressive and involutional psychoses, and epilepsy—among identical compared with fraternal twins. This suggests a genetic basis for these diseases, but attempts to calculate the form of the inheritance along Mendelian lines have been unconvincing. The most that can be legitimately inferred is that development up to the point of birth has something to do with the liability to the mental disorder in question. There is no justification for assuming that the tendency is inherited in the traditional sense, and still less that the types of behavior disturbance studied above tend to be passed on from parent to child. Notably there can be no suggestion that a boy may inherit a tendency to be a criminal if his father is one. The intrauterine environment is more similar for monozygotic than for dizygotic twins, since the former mostly share the same amniotic membrane and the same placenta; what effects this might have in terms of foetal nutrition, antibody reaction with the mother or transplacental infection are quite unknown. It is possible that the fact of sharing a placenta may be a general cause of maldevelopment, especially of the nervous system, which would be

elaborated during the later stages of gestation when nutritive demands would be greatest. Nevertheless, twin studies can be held to establish that susceptibility to behaviour disorder may often originate congenitally.

Such a postulate in no way detracts from the postnatal determinants of behaviour disturbance, and these must no doubt still be reckoned as the main ones in the great majority of cases. But, as the writer (20) has suggested for "intelligence," it is quite unrealistic to attempt to estimate the relative contributions of heredity and environment in general. In one case, mental defect or behavioural aberration may be due entirely to congenital or even a hereditary factor, in another be entirely environmental. Development is the result of an interaction of genetically prescribed modes of development with the environment as it exists at each stage. Moreover, each individual seems to be equipped with alternative genetic "blueprints" to suit different types of prenatal or postnatal environment. To take an extreme instance, at a certain degree of overcrowding locusts change their body colour and other morphological features, and from being solitary begin to swarm and emigrate (23). In many species of animal overcrowding induces infertility, poor viability of the young and behaviour disturbance (21). As a result of his studies of a population decline in the common vole Chitty (3), after examining every other possible explanation, was driven to the conclusion that at times of high population density the young suffered damage at the foetal stage. There would thus seem to be a regular genetic

provision for poor viability at such times, which would have survival value by reducing numbers to a safer level before there was an actual shortage of food. In several species of birds and among mammals in certain rodents, notably the muskrat and the lemming, reduction of numbers is effected by suicidal emigrations of the yearling animals. These in themselves must rank as aberrations in that they are qualitatively distinct from seasonal migrations, and are accompanied by a breakdown of the typical instinctive behaviour of the species.

A genetic susceptibility to behaviour disturbance may therefore be one of these alternative genetic provisions which come into play under certain environmental conditions. Since it is the survival of the population rather than of particular individuals that matters from an evolutionary point of view (12), it is no contradiction that such a genetic provision takes an incapacitating or "suicidal" form. It would mean that in times of stress, which in nature are mostly times of high population, a certain number of individuals are born with a susceptibility to self annihilation. Whether or not this comes into effect depends upon the favourableness of the postnatal environment. Such a hypothesis is consistent with the highly variable resistance to family deprivation observed by Lewis (7) and with the *Milieuansfällighet* (heightened susceptibility) observed by Göllnitz in brain-damaged children.

When the child's postnatal environment is favourable, congenital impairment of temperament may show itself only in slight indications. It is interesting that the incidences of disease and physical defect began to rise significantly from a maladjustment score of 10 for the delinquents but of 5 for the controls. Assuming that the proportion of prenatal neural impairment would be similar among the physically impaired of both groups, this would mean that in the non-delinquents the behaviour disturbance often took only a minimal, "unprovoked" form.

It is hardly possible to estimate the prevalence of the congenital impairment such as, it is suggested, underlies the association between the physical conditions and behaviour disturbance. A feature of the components of the pregnancy/multiple impair-

ment syndrome is that none is a necessary consequence of prenatal stress. For example, in boys of normal mental ability, non-epidemic infantile ill health was the sequel to disturbed pregnancy in 41% of the cases (15). Among subnormals such ill health tended to be associated with malformations, but to be independent of behaviour disturbance (17, 18), the stage at which the pregnancy was disturbed being apparently a factor. If the same holds true of the physical conditions and behaviour disturbance in the present samples of boys, the cases where both are found would be those in which the stress was of sufficient duration to cause impairment of both types, and where the genotypes of the mother and foetus prescribed the sorts of impairment in question. In other cases there would be physical impairment without behaviour disturbance, or conversely. Thus, if this argument is correct, there would be many more children suffering a congenital susceptibility to behaviour disturbance than is shown by the proportion who were unhealthy.

The above suggestion of a fairly widespread, even though mild, damage or maldevelopment of the central nervous system lends itself to experimental confirmation in a number of ways. For example, the theory would predict that individuals with physical defects and/or a record of juvenile ill health would tend to show abnormal psychogalvanic reflexes, reaction times, body temperatures, etc., and that such associations would be closer where behaviour disturbance was also present. All these factors should moreover show a matrix of intercorrelations. With his laboratory tests of "neuroticism" Eysenck may indeed have lighted on a not uncommon mild congenital impairment of the central nervous system.

SUMMARY

A congenital factor in behaviour disturbance, including those types thereof related to delinquency, was inferred from data drawn from two sources.

A recomputation was made of the delinquency proneness of boys by year of birth, as published by Wilkins. This showed that when limited to those committing offences between their 8th and 14th birthdays, the proneness was highly specific to

those boys born during the early war years. This wartime peak closely resembled that for children dying from congenital malformation in the first 4 weeks of life. There was no such tendency among those committing offences after their 14th birthday.

Among Glasgow boys put on probation in 1957 and non-delinquent controls, a close relationship was found between a number of physical conditions—respiratory and other ailments, physical defects, bad eyesight and abnormality of growth—and indications of behaviour disturbance as recorded on the Bristol Social Adjustment Guides. With the exception of bad eyesight among the controls, the incidence of these conditions was never less than twice as high among the maladjusted compared with stable group; and among probationers and controls combined the difference was significant for all 5 conditions at a risk of chance of less than 1 in a 1000.

Three possible alternatives were considered to the hypothesis of a congenital factor common to the physical conditions and the behaviour disturbance. Inadequate living standards could not be the explanation since the associations held good among those probationers coming from adequate standard homes. Compensation for feelings of inferiority or frustration was similarly ruled out, because boys showing this type of behaviour disturbance had lower than average physical illness or defect. Finally a psychosomatic explanation—that the maladjustment produced exhaustion which undermined health—was rejected, first because the associations held good when the depressed children were excluded, and second because it could not feasibly account for the defects as distinct from the illnesses.

It was consequently argued that the only explanation known which could account for the associations was that of congenital insult which in some cases was seen both somatically and in impairment of that part of the nervous system controlling behaviour. The latter might induce a greater delinquency proneness by reducing resistance to stress, and thus more frequent breakdown under adverse environmental conditions.

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MORAL INSANITY IN THE UNITED STATES 1835-1866^{1, 2}

NORMAN DAIN, Ph.D., AND ERIC T. CARLSON, M.D.³

To the 18th century physician—and to the philosopher as well—sanity was that condition in which an individual's reason remained master over his other faculties. Although no generally accepted definition of insanity existed, physicians agreed that the disease in all cases involved deranged reason. No matter what the condition of the other faculties, notably emotion and will, the reason had to be affected for the patient to be deemed insane.

Toward the end of the 18th century, however, this view lost its former unquestioned dominance. On the basis of clinical experience, leading physicians specializing in mental illness—Pinel, Esquirol, Georget, Gall, and Rush(1), for example—came to accept the idea that a person could be insane if his faculties of emotion and will were unbalanced, even though his reason remained intact. In 1801 Philippe Pinel, the famous French *aliéniste*, called this form of mental disturbance *manie sans délire*(2), and in 1835 the English physician James C. Prichard gave this illness its English name, "moral insanity." Prichard also wrote the classic description of this form of mental disease(3):

... the intellectual faculties appear to have sustained little or no injury, while the disorder is manifested principally or alone, in the state of the feelings, temper, or habits. In cases of this description the moral and active principles of the mind are strangely perverted and depraved; the power of self-government is lost or greatly impaired; and the individual is found to be incapable, not of talking or reasoning upon any subject proposed to him, for this he

will often do with great shrewdness and volubility, but of conducting himself with decency and propriety . . . His wishes and inclinations, his attachments, his likings and dislikings have all undergone a morbid change, and this change appears to be the originating cause, or to lie at the foundation of any disturbance which the understanding itself may seem to have sustained, and even in some instances to form throughout the sole manifestation of the disease.

Since it could explain certain cases which did not really fit into the oversimplified traditional psychiatric categories, Prichard's concept of "moral insanity" served for decades as a diagnostic catchall. It embraced the many forms of mental illness in which the patient's intellectual powers seemed to be partially or wholly intact, and consequently encompassed a class of individuals formerly regarded as merely vicious rather than mentally disturbed—individuals who, though rational, committed horrible crimes. Moral insanity accounted for these crimes as the acts of persons who had lost their ability to accept society's judgments about what constituted moral behavior. They might know that society condemned certain actions, but fail themselves to condemn them, or they might intellectually accept conventional moral values but be unable to resist the drive of their emotions to some antisocial act. In brief, they lacked a moral sense, or rather, possessed only a warped one, despite their intellectual awareness or acceptance of conventional moral values.

Because it expanded the boundaries of what might be considered mental illness, the concept of moral insanity significantly influenced psychiatric thought, for it led to the concept of neurotic character and psychopathic personality. The primary purpose of this paper, however, is to examine the underlying reasons, largely non-medical, which led mid-nineteenth century American psychiatrists to accept or reject moral insanity as a valid psychiatric theory. This study discusses the important role that

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philosophical, religious, and legal traditions played in determining the attitude of psychiatrists toward the concept of moral insanity.

Before the 1830s the concept of a form of insanity unmarked by intellectual disturbance encountered relatively little attention in this country and even less opposition. Shortly after Prichard's work appeared, however, moral insanity became an important and controversial issue in American psychiatry. At that time, a growing number of cases in which the defense pleaded insanity—often moral insanity—appeared in the courts and psychiatrists frequently testified as expert witnesses. Thus moral insanity became a public issue upon which psychiatrists had to take a position.

Concerning the stands American psychiatrists took, two leading authorities on psychiatric history, Henry M. Hurd and Gregory Zilboorg (4), indicate that few American psychiatrists accepted the concept of moral insanity. Hurd and Zilboorg contend that Isaac Ray, superintendent of Butler Hospital in Providence, expert on the jurisprudence of insanity, and probably the most outstanding personage in early nineteenth-century American psychiatry after Rush, virtually stood alone in defending the concept of moral insanity. Actually, however, the majority of the most original and important American psychiatrists before the Civil War—Benjamin Rush, Eli Todd, Rufus Wyman, Luther V. Bell, Amariah Brigham, John S. Butler, Pliny Earle, Samuel White, and Samuel B. Woodward—also accepted this concept (5). Furthermore, Prof. Willard Parker of New York's College of Physicians and Surgeons testified at a criminal trial in 1856 that, in his opinion, "the mass of well-educated physicians" of the time took a similar position (6).

Because it gave prominence to the role of emotions in character formation, the concept of moral insanity had special attraction for the numerous psychiatrists who were becoming more aware of the importance of the emotions in human personality and behavior. Brigham expressed this orientation in 1844 when he wrote:

superiority of our moral nature over intellect itself. The intellectual faculties are but a part of our mental powers, and contribute but little in fact towards forming what we call the *character* of an individual . . . Without these propensities or moral faculties, the intellectual powers would not be exerted at all, or but feebly. The stimulus or agency of the impulse of our moral nature, of benevolence, love, avarice, *etc.*, impel men to action—to gratify these the human race have forever toiled (7).

Usually associated with this concern with the emotions was a strong commitment to moral treatment, the revolutionary approach to mental illness initiated in the last decades of the eighteenth century and practiced in the better American mental institutions at least until the 1860s. Moral treatment prescribed a regimen of kindness, consideration of each patient's needs, and occupational and recreational therapy. Since it emphasized psychological factors in the etiology and therapy of mental illness, it consequently encouraged interest in the role of emotions in insanity. For the most part, those physicians most committed to the practice of moral treatment, especially its psychotherapeutic aspects, embraced the concept of moral insanity (8).

Although many American psychiatrists increasingly recognized the significance of the emotions in human psychology, they did not adopt the "romantic" or "mystical" concept of life which gained so many converts, both artistic and medical, in Germany before the 1840s and which in the United States found its fullest expression in transcendentalism. It was rather the enduring spirit of the rationalistic Enlightenment, together with "scientific" phrenology, that provided the broad theoretical framework for accepting the concept of the derangement of the emotions, or moral insanity.

For different reasons both the philosophy of the Enlightenment and phrenological theory tended to view antisocial acts as aberrations for which the perpetrator was not ultimately responsible. Eighteenth-century Enlightenment thinkers, stressing human equality at birth, often maintained that differences were environmental in origin and that therefore a person who committed antisocial acts was responding to forces which he neither created nor con-

We do not wish to undervalue the intellect . . . but we wish that all might realise the

trolled. By limiting and even denying the existence of personal responsibility or free will, the Enlightenment opened the way to regarding habitual, unprovoked, or senseless criminal behavior as the product of mental illness. Phrenology, which had widespread influence among American psychiatrists, localized the various faculties of the "mind" in specific regions of the brain; each section was the seat of a different behavioral, emotional, or cognitive trait, any one of which might be under- or overdeveloped in relation to the others. Such a theory could embrace without difficulty the notion that the moral faculties might be deranged while those of the reason remained intact.

The second half of the nineteenth century witnessed a decline in the influence of rationalism and phrenology and the rise of a more pessimistic and moralistic approach to man among American psychiatrists. This altered philosophical climate favored an increased opposition to the concept of moral insanity. In addition, a new generation of physicians was entering the field, and their orientation was somatic rather than psychological. The advocates of moral insanity, by viewing it as fundamentally a disturbance of the emotions or morals and ignoring somatic aspects, laid themselves open to the charge that they believed this form of mental illness to be primarily psychologically produced. Such a non-somatic approach smacked of medical heresy. Not only did American psychiatrists as a rule hold that insanity, whatever its original cause, invariably involved physical damage to the brain, but some of these younger men, noting European pathological researches, denied even that any of the factors causing insanity (moral or any other kind) could be psychological.

It was non-medical considerations rather than any commitment to somaticism, however, which prompted rejection of the concept of moral insanity. The American psychiatrists who condemned the concept, like many jurists, churchmen, and educators of the last century, could not accept the idea that there might exist a form of insanity which exhibited itself in immoral acts while the intellect remained in perfect or near perfect functioning order. Among psychi-

atrists, the most influential and implacable foe of moral insanity was the strict somatist John P. Gray, superintendent of the New York State Lunatic Asylum at Utica and editor of the *American Journal of Insanity* from 1855 to 1885. Gray equated the concept of moral insanity with that of irresistible impulse and based his opposition in part upon the supposed undesirable consequences its acceptance would have upon religious beliefs, moral standards, and legal practices. He wrote(9) :

The general tendency of the doctrine of moral insanity is bad, whatever show or real feeling of humanity there may be in it. It is bad, in a religious view, because it tempts men to indulge their strongest passions, under the false impression that God has so constituted them that their passions or impulses are not generally governable by their will or their reason, and that, therefore, there is no punishable guilt in indulging them. This is fatalism. It is bad in a legal view, because it protects from due punishment offenses which, with the self-denial and self-control that men rightly trained and rightly disposed are quite capable of exercising, might be avoided. It tends to give to bad education, loose habits, vicious indulgence, neglected parental control, and disobedience to God, an immunity . . . not warranted by the Scriptures, the law of reason, or any codes of human law that assume to be founded on the law of reason or the law of God.

Gray insisted that, according to the Bible, the so-called moral insanity was not a disease. Cain, who killed his brother Abel for no good reason, such as personal advantage might be adjudged by some to be morally insane. God knew better and called the act murder, for which Cain had to suffer punishment. The term "moral insanity" Gray considered a dubious defense for misconduct and crime. He warned that if this kind of appeal could succeed, the time was not far off when each particular form of insanity, real or simulated, would be presented as a plea in order to ward off punishment(10).

The theoretical basis for Gray's position, which many laymen shared, was in large part the prevailing Protestant religious morality, especially as promulgated by Scottish "common sense" philosophers. Developed by Thomas Reid and Dugald Stew-

art in reaction to Locke's sensationalism and Hume's skepticism, common sense philosophy greatly influenced physicians, lawyers, and academicians in Great Britain and the United States and pervaded American psychiatry, philosophy, and psychology until late in the nineteenth century. Like the Puritans, the Scottish philosophers believed that with Adam's fall man lost his capacity for wholly rational thinking. In a sense, then, he was partially insane to begin with. What guided him with a surer hand than reason and experience was his innate moral faculty, which did not depend for its operations upon the intellect or learning. Man knew right from wrong independently of reason or experience; this knowledge was inborn and came directly from God. Crime, therefore, was the result of willful violation of moral law.

On the other hand, according to the Scottish philosophers, if a person's intellect or faculty of reason became diseased, he was free from moral responsibility and punishment because no one could tell whether his criminal act was committed from a morally corrupt or a pure heart. One could ascertain the true desire of a human soul only by observing external acts that emanated from a properly functioning brain. A deranged faculty of reason might lead a person to go against his own desires or to act immorally even if his motives were morally good. Thus, if murder was committed in obedience to the supposed command of God, some judges deemed the act that of a good man and therefore not punishable, but if the crime was done for gain, an insane defendant might receive the death penalty.

Many psychiatrists besides Gray expressed concern about the social and legal consequences of accepting moral insanity as a legitimate mental illness. Among these physicians were Thomas S. Kirkbride, superintendent of the Pennsylvania Hospital for the Insane, and George Choate, head of the State Lunatic Hospital at Taunton, Massachusetts. Kirkbride denied that gigantic frauds and startling crimes were manifestations of insanity, and warned against "every attempt . . . to put crime on a footing with disease, or to confound [insanity], with recklessness, extravagance, and depravity

of our race"(11).

Choate also agreed with Gray that licentiousness should not be confused with insanity. His asylum, he reported, had some sane patients accepted for safekeeping because their addiction to bad habits placed them beyond the control of their friends. Some of these unfortunates appeared to have lost "in a measure their self control" and voluntarily committed themselves in order to be removed from temptation. Choate contended, however, that intemperance, unbridled licentiousness, and propensities to vice were not synonymous with mental illness(12). Apparently, so long as the patient remained rational, Choate would not recognize that he might be mentally ill.

Some psychiatrists, while not fully accepting the concept of moral insanity, did not wholly reject it either. William M. Awl, head of the Lunatic Asylum of Ohio at Columbus, for example, commented that a patient who had attempted to murder Dr. Kirkbride at the Pennsylvania Hospital belonged to a troublesome and mischievous class, "part mad—part knave, and rather more than two-thirds downright old fashionedly wicked in heart and head." At Columbus also they had this type of patient, and it was doubtful "if an insane hospital is exactly the right place for them . . ."(13).

An extensive discussion of moral insanity took place at the 1863 meeting of the Association of Medical Superintendents of American Institutions for the Insane, predecessor of the American Psychiatric Association. Of the 13 superintendents who ventured an opinion, 5 supported and 8 rejected the concept of moral insanity; one of the 8 had previously accepted it. The opponents of the concept made their objections on moralistic grounds primarily: the discussion centered around its legal and social implications, and its validity as a medical entity was little debated. The real issue was whether psychiatrists should support the use of the term "moral insanity" as a defense in court.

Many worried about the bad light in which it would place the psychiatric profession to condone moral insanity as a defense in a criminal trial. The public might thus be given, according to one speaker, grounds for believing that psychiatrists were

"contending that cases of enormous and extraordinary turpitude are kindred to disease"(14). Isaac Ray, who argued against the majority, admonished his colleagues (15) :

I am sorry to have seen here, as I have elsewhere, so much apprehension manifested as to the effect which our teachings, our doctrines, and our opinions, are going to have upon the popular voice. Now, gentlemen, it strikes me that this is hardly maintaining the dignity of our office. Before we can adopt any conclusion to which the facts lead us, are we to inquire how it is going to suit the jury, or the court ; what the lawyers are going to make of it, or how it is going to strike them ?

Uncertain about their sociological role as members of a new profession, treating patients only recently regarded as worthy of medical attention, and afraid to flout public opinion and legal tradition, these psychiatrists sought acceptance by giving unquestioning support to existing laws and prejudices. They did so to a point where some of them were willing to give law rather than medicine the right to determine whether an individual was mentally responsible for his acts (16).

The remarks of John Van Buren, a President's son, New York State Attorney General, and prosecutor at the famous Freeman trial where the defense was insanity, indicate the kind of opposition psychiatrists might meet (17) :

Insanity, as constituting legal incompetency or irresponsibility, must be within the comprehension of any ordinary man of fair capacity. I deny and resist the theory of the [psychiatrists] that an ordinary man can't comprehend it—a theory which substitutes the testimony of a physician, as to legal responsibility, for the law of the land—expels the Judge from the bench and the Jury from the box—overturns the government, and places the Property, Liberty, and Life of any citizen in the hands of the Trustees and Superintendents of Lunatic Asylums.

No legal act can be done by a person of unsound mind. Does an individual execute a deed ? His legal capacity is disputed, and medical gentlemen deny it. Does he make a will ? His dissatisfied connections seek to set it aside . . . The jury thus see [sic] the infinite extent to which a surrender of their individual judgments might lead, and the absolute control of Property, Liberty, and Life, that might thus be

transferred to men of scientific pursuits.

Van Buren gave this warning in 1846, when most leading psychiatrists were vigorously demanding that the courts accept medical criteria for determining what constituted legal insanity. By the close of the Civil War this crusading spirit no longer moved psychiatrists, especially where the concept of moral insanity was concerned. Although Ray was still alive, many other advocates of Prichard's theory, including Bell, Brigham, White, and Woodward, had died during the intervening years, and the younger men who had taken their places showed little interest in battling the courts. In 1866 W. S. Chipley, superintendent of the Eastern Lunatic Asylum at Lexington, Kentucky, estimated that although "many honest, capable and faithful observers" continued to advocate the concept of moral insanity, it was "repudiated, as a false doctrine, fraught with great evil to society, by a majority of the practical psychologists, known . . . to be gentlemen of fidelity, integrity, and experience"(18).

CONCLUSION

Before the 1860s many leading American psychiatrists accepted the concept of moral insanity as defined by Prichard. These men also emphasized the psychological element in the etiology, pathology, and treatment of mental illness and were in advance of their colleagues on most psychiatric questions. They tried to take a purely clinical and scientific view of mental illness and to broaden its confines to include largely emotional disorders. Some psychiatrists, however, had reservations about the theory of moral insanity, and a few, like Gray, condemned it outright. Fear of public opinion, reluctance to take an independent stand on controversial issues, and attachment to conventional moral precepts, combined with an increasing stress on somaticism, led a growing number of American psychiatrists eventually to reject the concept of moral insanity. This trend reflected the passing of the first and more venturesome generation of the new profession. The problems that moral insanity dealt with and the controversy that it inspired, however, remain with us to this day.

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DISCUSSION

IAGO GALDSTON, M.D. (New York, N. Y.).—No one could possibly disagree with the concluding remarks of the authors to the effect that "the problems that moral insanity dealt with and the controversy it inspired, remain with us to this day." Furthermore they are likely to abide with us until we effectively analyze and restate the issues involved.

Historically, as the authors have so clearly indicated, moral insanity represents a nosological advance. Stated simply, it affirmed that a man did not need to be crazy to be legally asocial. He could, in other words, be intellectually competent, and behaviorally defective. This recognition "led to the concept of neurotic character and psychopathic personality."

Psychiatrists, however, have not been content to rest with moral insanity as a nosological refinement, but developed its implications in terms of "responsibility." This, so to say, catapulted the psychiatrist into the legal arena, and, "that's where the trouble began." For the psychiatrist henceforth was not simply an *amicus curae* but became the protagonist of a definitive point of view intrusive on the prerogatives of judge and jury.

The problem of responsibility is, at its higher levels, a moral, and, at its lower levels, a legal issue. In the ultimate, the degrees and dimensions of responsibility are arbitrated by the social group. Under what circumstances, and to what extent the individual is to be held responsible is decided by his peers, the limits of both being defined by law, and determined in the juridical process.

The dimensions and qualities of legal responsibility change from period to period. In the early stages of English law, back in medieval times, insanity was never a defense for crime. The insane killer, like the man who killed in self-defense, might seek a pardon from the king, and would often get one. He had no defense at law. Gradually, however, the law mitigated its severity. A defense of insanity was allowed, but only within the narrowest limits. This is historically known as

"wild-beast state defense." Still later, a defense based on the accused's incapacity to differentiate between right and wrong in general, or in the abstract, or, as it was otherwise phrased, good and evil was allowed (Cardozo).

Only in 1843 did we reach the present and prevailing definition of responsibility in insanity. This was crystallized in the answer made by the House of Lords to questions submitted by the judges in the famous case of M'Naghten who was tried for the murder of one Drummond, the secretary of Sir Robert Peel. In that historic answer the crucial reference is to "such a defect a reason from disease of the mind, as not to know the nature and quality of the act he was doing, or, if he did know it, that he did not know he was doing what was wrong."

A strict reading of this ruling shows clearly that it refers to the classical concept of insanity, namely as disease of the *mind*, which results in a defect of reason. It does not give sanction or validity to "moral insanity," which, again by strict definition is a disease of the personality rather than a disease of the brain and its reasoning competences.

That the plea of moral insanity has gained some acceptance in the courts is due, I believe, not to the fact that the law has been so much impressed or persuaded by the psychiatrists' contentions as by the fact that the law itself has become less rigorous and exacting in its interpretations of moral and legal responsibility.

Recent experiences have confronted both the law and mankind with some perplexing issues as to the limits of moral responsibility. I have in mind the behavior of brainwashed individuals and that of the individuals subject to torture and other forms of extreme duress. No less perplexing is the issue of moral responsibility involving a people who gave support to an atrocious government and participated in its heinous crimes.

As a nosological refinement, moral insanity is sound and unassailable, but it is of dubious merit when advanced as a plea for "legal innocence."

The Penal Law in the State of New York (34) specifically affirms "A morbid propensity to commit prohibited acts existing in the mind of a person who is not shown to have been *incapable of knowing* the wrongfulness of such acts, forms no defense to a prosecution therefor." Again, "it matters not that some uncontrollable impulse, the product of mental disease, may have driven the defendant to the commission of the murderous act. The law

knows nothing of such excuses."

Justice Cardozo, who was renowned for his liberality and humaneness, wrote: "Punishment is necessary, indeed, not only to deter the man who is a criminal at heart, who has felt the criminal impulse, who is on the brink of indecision, but also to deter others who in our existing social organization have never felt the criminal impulse and shrink from crime in horror." He further affirmed: "One takes a large order when one offers to re-shape from its foundations a scheme of penal justice."

Referring to the plea of moral insanity, Cardozo wrote: "The present distinction is so obscure that no jury hearing it for the first time can fairly be expected to assimilate and understand it. I am not at all sure that I understand it myself after trying to apply it for many years and after diligent study of what has been written in the books."

By indirection Cardozo underscores the distinction between moral insanity as a nosological refinement, and moral insanity as a consideration of legal pertinence. Responsibility is, he affirms, an issue of legislation not of psychiatry.

"Physicians," wrote Cardozo, "time and again rail at the courts for applying a test of mental responsibility so narrow and inadequate. There is no good in railing at us. You should rail at the legislature. The judges have no option in the matter. They are bound, hand and foot, by the shackles of a statute. Every one concedes that the present definition of insanity has little relation to the truths of mental life."

The authors attribute the rejection by some psychiatrists of the legal plea of moral insanity to "their fear to flout public opinion and legal tradition." "They were willing"—so the authors state, "to give law rather than medicine, the right to determine whether an individual was mentally responsible for his acts." But the right and the power to determine rests with the judge and jury—and may not be delegated. Psychiatrists may advise and inform. They cannot in the ultimate determine responsibility in the juridical sense. Great as psychiatry is—it has not yet attained the stature of the Sovereign Science.

You will have observed, I am sure, that I have commented but very little on the historical features of this fine paper. On that score, the authors deserve applause, rather than expanded comment. There was, however in this paper, an undercurrent of partiality, in favor of those who saw in moral insanity a juridical lever. This, I thought, merited discussion and exploration.

DIAGNOSIS AND TREATMENT OF THE SEXUAL OFFENDER : A NINE-YEAR STUDY¹

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Psychiatry has long sought a clearly defined method for applying psychological insights to the treatment of criminally deviant behavior. As a group we have become increasingly aware that many criminals are mentally ill and can respond favorably to psychiatric treatment. To many, a progressive correctional approach would include indeterminate sentencing for all criminals with provision for psychiatric treatment(1, 2, 6, 9, 18). The expectation of such a program would be that release could then be based upon definitive psychological change rather than punitive confinement for an arbitrary number of years. To date there has been little opportunity in the United States to test the validity of this approach.

In July 1951, the State of Wisconsin instituted a sex crimes program structured in a manner which embodies the major concepts of this ideal psychological approach (4, 7, 12). This program is based on the Wisconsin Sex Crimes Law which specifically recognizes the psychological nature of many sex offenses. The law establishes legal and administrative machinery to both identify and provide specialized treatment for the "deviated" sex offender. It is operated by a psychiatric and psychological staff which has the enthusiastic support of the correctional administrators and legal authorities of the state. An evaluation of 9 years experience with this program affords many insights into the advantages as well as the problems and shortcomings of a psychiatric approach to one type of offender. The purpose of this paper is to detail these insights in the hope that they may serve as guidelines for others who are involved in the establishment of similar programs.

The Wisconsin Sex Crimes Law provides that any person convicted of rape, at-

tempted rape, or indecent sexual behavior with a child *must* be committed to the State Department of Public Welfare for a pre-sentence, social, physical and mental examination. The law provides further that if the person is convicted of any other offense which, in the opinion of the court, is prompted by a desire for sexual gratification, the court may commit him to the Department for a pre-sentence examination if the Department is willing to accept him(3). Following commitment, the Department has 60 days in which to complete the pre-sentence examination and must at the expiration of this time submit a report of its findings and recommendations to the court.

If as a result of this examination, the Department finds that the individual is not in need of specialized treatment for "mental or physical aberrations," the court must impose sentence as provided by the criminal code. If, however, the individual is found in need of specialized treatment, the court *must* either place him on probation with the condition that he receive outpatient treatment, or the court *must* recommit him to the Department of Public Welfare for an indefinite period as provided by the Sex Crimes Law.

The law itself is two-pronged : providing treatment for those who can benefit from it, and maximum custody for life, if necessary, for those who cannot utilize treatment and who will remain a danger to society. Once recommitted under this law, the sex offender may be administratively handled in several different ways. Parole may be granted to the individual who responds to treatment and is felt to be capable of making an acceptable adjustment in society. Parole is granted only upon the recommendation of a Special Review Board, consisting of a psychiatrist, an attorney, and a social worker, which is entrusted with the responsibility of evaluating the individual's capabilities of again adjusting to society. This Board receives specific reports from the psychiatric staff as well as information

¹ Read at the 117th annual meeting of The American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

² Wisconsin State Dept. of Public Welfare.

from other areas of the institution treatment program. All individuals granted parole receive extra-institutional supervision from trained social workers.

Under the law an offender may be discharged at the expiration of the maximum term prescribed by law for the offense for which he is committed, or earlier if there is a reasonable probability that he can be released without danger to the public. Where, however, discharge of an offender would be dangerous to the public, continuance of control beyond the maximum term may be granted to the Department upon application to the committing court. Continuation of control is granted for a 5-year period at the end of which, if necessary, application can again be made to the court for further continuation. Thus, with the court's permission, an individual may be kept indeterminately.

In every instance the law provides for the protection of the individual's legal rights and has been found to be constitutional by the Wisconsin Supreme Court. The operation of the law is broken down into 2 phases: the 60-day diagnostic and evaluative period and the recommitment following recommendation for treatment.

THE DIAGNOSTIC PHASE OF THE LAW

The majority of individuals committed for pre-sentence diagnostic examination are sent directly to the Wisconsin State Prison. During the 60-day pre-sentence period at the State Prison, the individual is segregated from the general inmate population. He is oriented with respect to the operation of the law and is seen by a psychiatric social worker who compiles a detailed history. In addition a social history is received from the field which includes information based on interviews with the offender's relatives, local officials and other interested parties. Each offender receives a battery of psychological tests including both psychometrics and projective techniques. He has a series of interviews with a psychiatrist. A medical examination is performed and, where indicated, neurological consultation is available.

When the various examinations have been completed, the offender is discussed at a staff conference and a group decision

is made with respect to his diagnosis and his proper committability under the Sex Crimes Law. A report of the staff decision is then submitted to the Department of Public Welfare and from there to the committing court. The decision of the psychiatric staff is definitive with regard to whether the man is recommitted under the Sex Crimes Law, sentenced under the Criminal Code, or handled under the Mental Health Act. Decisions as to probation with outpatient treatment as opposed to treatment in a confined institutional setting are, however, entirely the province of the legal authorities. The staff does have the responsibility of providing information which the judge can use in making this decision.

A description of the mechanics of the diagnostic phase of the operation does not take cognizance of the extraordinary responsibilities involved in committing a man under this law. This is a program under which a psychiatric staff takes full responsibility for deciding whether a man is sentenced indeterminately with opportunities for treatment or whether he is processed through usual correctional procedures and given a definitive sentence. Decisions are made, therefore, that markedly effect the length of time during which an individual can be deprived of his liberty. Such decisions made by non-judiciary people must be undertaken with humility⁽¹¹⁾. Constant vigilance must be exercised to keep what might be termed a "dream" correctional program from turning into a nightmare. This is truly an area in which the psychiatric staff must be constantly questioning their motivations and must avoid being seduced by dogmatic inflexible philosophies. By making our decisions as a group, we benefit from one another's counsel and are better able to control any tendency toward a capricious use of the extraordinary powers that are vested in us.

The law states that an individual should be recommitted under the Sex Crimes Statute if he demonstrates mental and physical aberrations for which treatment is recommended. Most medico-legal procedures require psychiatric evaluation to conform to a rigid rule of responsibility or committability^(10, 17). Since the Wisconsin

law does not require such a fixed test, it permits a more meaningful and scientific application of psychodynamic principles. The staff is therefore free to recommend sentencing under the Criminal Code for those sex offenders who can more readily respond to ordinary correctional techniques. The staff is also free to develop their own criteria for selecting the most suitable candidates for recommitment into the treatment program.

Over the 9 years of operation of the law many different criteria have been used in an effort to identify those who require indeterminate sentencing and treatment. At one point, efforts were made to arrive at a clear and rigorous definition of sexual deviation. A number of such definitions have been used and were later discarded as being too inflexible or unwieldy. Our current operational concept is based on a conviction that criminal sexual behavior occupies a point on a continuum which is bounded on one side by the crime committed primarily as a result of sociological or cultural factors, and bounded on the other extreme by crimes committed almost entirely because of psychological determinants. On the one end of this continuum is the criminal who shows no evidence of mental illness and who commits a crime because of inadequate moral standards or controls in his social milieu. At the other end is the individual who is obviously mentally ill and whose criminal sexual act appears clearly to be a product of that illness. We have little difficulty in making decisions with respect to these two extremes of criminal sexual behavior. The former group is best handled by the usual correctional procedures and with these offenders we recommend disposition under the Criminal Code. The latter group is handled under the Sex Crimes Law or, occasionally when the illness is of psychotic proportions, through commitment to a state hospital under the Mental Health Act. Problems arise with the many shades of gray along the continuum of criminal sexual behavior that are neither entirely culturally nor psychologically determined. In the majority of our cases the abnormal sexual behavior has multiple determinants and cannot be easily pigeon-holed into one

category or another (5, 13).

In practice we recommend commitment under the Sex Crimes Law for those who present two basic qualities in their personality and behavior. First, we look for an immaturity in the development of sexual functions. This is almost always a broad immaturity which also encompasses other areas of the individual's personality and social behavior. Second, we look for a deviation of the individual's normal sexual aim or object which he has little ability to control by conscious rational thought. We then speak of this individual as having a compulsive need to live out his sexual immaturities. Most psychiatrists agree that when an individual shows a combination of sexual immaturity and a compulsive need to act out his immature sexual cravings, he is likely to continue to be involved in sexual offenses unless he receives treatment (14). For this type of individual, recommitment under the Sex Crimes Law appears to be most appropriate. For clarity in our communication to one another we speak of these individuals as "sexually deviated."

Although we occasionally see deviates with relatively intact personalities, the majority of our patients demonstrate few ego strengths and few conflict-free areas in their lives. Most of our patients come from lower socio-economic groups. Their histories often reveal severe trauma and emotional deprivation during early childhood. Broken homes as well as excessive drinking and promiscuity on the part of their parents are commonplace. Approximately 40% of our population has had previous correctional experience and many others have been wards of the state. Our experience indicates that sex deviates, as a group, function in the world as inadequate individuals. They are impulse-ridden, show poor controls in most areas of their lives, and have considerable difficulty in experiencing the possibility that they have some role in their own destinies. We have been impressed by the overwhelming passive needs of our population. They constantly verbalize their lack of responsibility for their behavior and express a desire for somebody to provide direction for them.

The overwhelming passivity of these individuals is accentuated by arrest and

commitment. The impact of arrest on the sex deviate leads to feelings of shame and humiliation. When the passive inadequate individual encounters these emotions, he becomes even more helpless. He seeks easily grasped concepts or structures that will afford him an explanation for his behavior. He often rationalizes that he was seduced by sexually aggressive, precocious young boys or girls. Some sex offenders presumptuously dismiss their deviant behavior as being entirely the product of overindulgence in alcohol. Another common defense is the total denial of the offense both to the authorities and sometimes even to themselves. This type of denial is deeply fixed and may be seen even in the presence of a long record of similar offenses documented by reliable witnesses.

While a complete discussion of the psychodynamics involved in sexual deviation is beyond the scope of this paper, a few observations may be relevant. Although there are elements of unresolved Oedipal conflicts in most of our cases, these problems are contaminated by earlier experiences of oral deprivation. Sexual behavior, for most of our patients, is tied in with tremendous needs to satisfy passive wishes, bolster self-esteem, find identity and, in a figurative sense, be fed. Many of these individuals would fall into the category of ambulatory schizophrenic or borderline states (15, 21).

Because sexual deviants, generally, do not fall into meaningful diagnostic groupings, we have found that it is extremely difficult to diagnose our patients in terms of the standard APA nomenclature. For this reason, we attempt to focus on a careful examination of the dynamic factors in the personality with the goal of obtaining descriptive information that will be useful in the treatment process.

THE TREATMENT PHASE OF THE LAW

Since only a small portion of those re-committed under the law for treatment receive probation with outpatient therapy, our major treatment efforts are directed towards those confined at the State Prison. After the individual has been recommitted under this law, he becomes involved in the rehabilitation program of the institution. He

is oriented with respect to regulations, classified, and given a job assignment. Most important, however, he is entered into a specific program of treatment based on the results of our diagnostic studies. His progress in treatment is reviewed periodically by the staff and changes in the program are made when appropriate. As with diagnostic appraisals, program changes are based on staff decisions.

Our experiences have led us to the conclusion that at the present time there is a small percentage of sex offenders who do not respond to psychological procedures. We, nevertheless, feel that this group is properly placed under the law since these are persons who are driven by impulsive, immature sexual drives and are totally unreachable by ordinary correctional methods. In the case of these offenders the law functions primarily to protect society. Some of these individuals will be committed far longer than they would have been had they been sentenced under the Criminal Code. We feel that the failure of ordinary psychological treatment techniques with this group represents an inadequacy of psychiatric knowledge, and that until our techniques are more refined, treatment must consist of indeterminate custodial care. This is analogous to the case of the chronically psychotic patient in a mental hospital who often must be institutionalized even though there is little definitive treatment available.

The majority of offenders committed under the law are amenable to some form of psychological treatment. We currently provide both individual and group psychotherapies ranging from insight therapies to supportive or even didactic approaches. For those individuals whom we feel are able to make personality changes, the major goal of treatment is to provide sufficient self-understanding to help them resolve or control their impulsive sexual motivations. For those who do not demonstrate a potential for personality change, treatment may consist of strengthening useful defenses, education, and emotional support.

Based on their needs, many individuals are recommended for expressive individual or group psychotherapy. Individual psychotherapy is conducted by a number of thera-

pists of varying orientations. All tend to use techniques directed at uncovering unconscious material when working with patients who are appropriately motivated and can tolerate anxiety. Group therapy was originally inaugurated to provide for a maximum number of contacts with a limited professional staff. It has, however, proved so markedly effective in helping these individuals to establish positive self-identification quickly, and to bring about the development of social and interpersonal insights, that we now regard it as the treatment of choice for many individuals.

Psychotherapeutic contact is less frequent than we feel to be optimal. An attempt is made to establish weekly or twice-weekly contacts with all individuals in group therapy. Individual therapy contacts run the gamut in terms of frequency from a limited number of individuals who receive twice-a-week therapy to a greater number who are seen weekly or biweekly. The average length of treatment for both group and individual therapy is approximately 14 months.

The combination of a correctional setting, an indeterminate sentence, and the inadequate personality of the sexual deviate tend to produce specific problems in psychotherapy which may not be encountered in other settings. The most outstanding of these is a type of resistance in which the patient eagerly grasps onto a psychological or moralistic formula which provides him a rationalization for his behavior. This serves as a superficial explanation for his difficulties which may also lead him to a conviction that he will not repeat the offense. If an individual states that he is going to stop repeating his aberrant behavior, and holds to his belief on the basis of an alleged change in his morals or an alleged understanding of his difficulties, he sets up a tremendous road-block to treatment. The patient who clings to such a position effectively removes the need for the therapist or any further therapeutic change. The most satisfactory way to avoid this resistance is for the therapist to be constantly aware of any tendencies in himself toward adopting a psychiatric "party-line" which the inmate can learn and parrot back to him. The inmate must be constantly questioned as to

what he actually does understand about himself and both he and the therapist must realize that the areas involved are so complex that they can never be treated with certainty. Optimally, therapy should be conducted in a situation where the offender is moderately anxious and both uncertain and concerned about his propensity to repeat his offense. The inmate who leaves the institution with doubt and apprehension is perhaps a better risk than the one who leaves with an ultimate assurance of being cured.

A sizeable number of offenders are not selected for expressive therapy primarily because they either show little motivation or do not have sufficient ego strength to cooperate in this type of treatment. For this group we have been experimenting with a variety of other techniques including supportive educational sessions, environmental manipulations, and even exhortative approaches. Many of these offenders have been unable to tolerate close contact with another person without feeling aroused by all sorts of infantile sexual and aggressive feelings. Few are able to appreciate that a close benevolent relationship with another individual is a possibility. These men are provided therapeutic contacts ranging from "friendly chats" to specific didactic sessions on sexual problems. Through such techniques many offenders are able to discover a new type of interpersonal relationship and to markedly strengthen their internal controls. Adjunctive services such as religious, occupational and educational counseling are available.

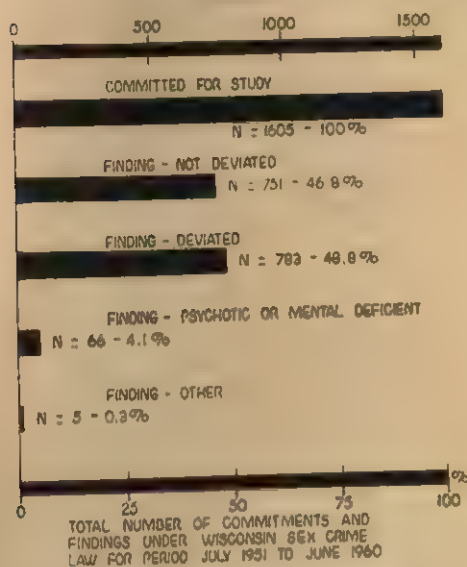
Our experience has taught us to be flexible in our thinking, daring in our experimentation with new techniques, and realistic with respect to the establishment of meaningful goals. Only by modifying our orthodox concepts have we been able to produce encouraging results.

A STATISTICAL SUMMARY OF THE PROGRAM

From the inception of the Sex Crimes Law on July 26, 1951, detailed statistics on its operation have been maintained by the Bureau of Research and Statistics of the Wisconsin Department of Public Welfare (20). It is possible, therefore, to offer a good statistical picture of the law. During the period July 26, 1951 through May 31, 1960,

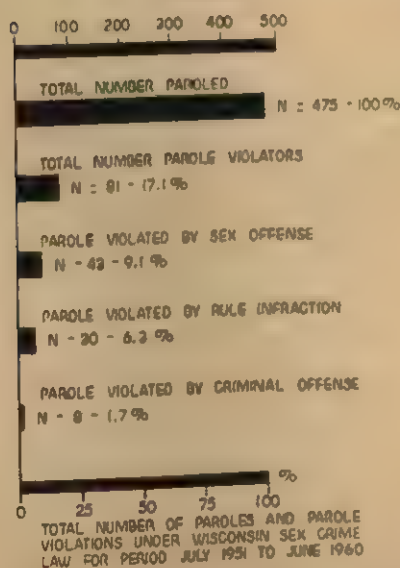
a total of 1,605 male sex offenders were committed to the Department for diagnostic purposes. From Figure 1 it can be seen that

FIGURE 1



of this total 783 (49%) were found to be deviated, 66 (4%) were found to be psychotic, mentally deficient or epileptic and handled under the provisions of the Mental Health Act, and 751 (47%) were found to be non-deviated. Of the 783 individuals found to be deviated, 146 were given probation with outpatient psychiatric treatment

FIGURE 2

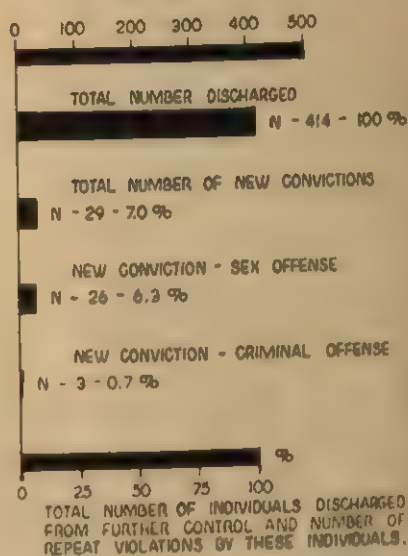


and 632 were recommitted to the Wisconsin State Prison for treatment. A little less than half of the sex offenders committed to the Department for evaluation were found to be in need of specialized treatment and the vast majority were recommitted to the Prison for that treatment.

As shown in Figure 2, parole experience with this special group of offenders has been found to be excellent. Of the 475 individuals who have been granted parole through May 31, 1960, only 81 have violated that parole. This is a violation rate of 17% and is considerably lower than that found with parole granted to the general prison population. It is particularly noteworthy that only 43 (9%) of the total paroled violated their parole by commission of a further sex offense.

Figure 3 reveals the outstanding nature of

FIGURE 3



the discharge record of individuals who have been committed under the law. In most instances individuals were discharged following both institutional treatment and a period under parole supervision. Through May 31, 1960, 414 individuals were discharged from departmental control. Only 29 (7%) of these committed a new offense following discharge. The parole experience and the discharge record of individuals who have received treatment under the law is encouraging. Statistically it

would appear that this law has been most effective not only in providing protection to the public, but also in demonstrating that the majority of this group is capable of responding to treatment.

CONCLUSION

After 9 years of experience with this law, we are convinced that a program which embodies the principles of indeterminate sentencing and psychiatric treatment is both workable and useful. We feel that it is the best approach currently available through which society can deal with the agonizing problem of the sex offender. We would be negligent, however, if we did not emphasize some of the problems and shortcomings of our own program. Obviously even an enlightened prison setting is not an ideal environment in which to conduct a flexible treatment program (8, 16). Until we can build our own "prison-hospital" for this group of offenders, we are forced to make many compromises which may not be therapeutic. Finding adequately trained therapists to work in a correctional environment remains a constant problem (19). We do not feel that we are anywhere close to giving optimum psychotherapy to each offender who can benefit thereby. A constantly haunting problem is our inability, because of the statutory requirements, to set up adequate control studies which would afford scientific validity to our work.

Perhaps the most important issue raised by our experience involves the frightening responsibilities which the therapists must assume. A psychiatrist or psychologist in our sex deviate program often must step out of his traditional clinical role; he makes crucial decisions which effect the liberties of his fellowman. There is no room for an arrogant and dogmatic attitude. If we are to become involved in the problems of social justice, we must be prepared to assume the overwhelming responsibilities with sincere humility as well as scientific fervor.

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STUDENT VOLUNTEER MOVEMENT AND THE MANPOWER SHORTAGE¹

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Since 1953, undergraduates of Harvard and Radcliffe have been carrying on therapeutic activities, largely of their own design, with chronic patients at Metropolitan State Hospital in Waltham, Mass. This remarkable program(1, 2), originated by an undergraduate, J. L. Dohan, with guidance from psychiatrists at Massachusetts Mental Health Center and Metropolitan State Hospital, has spread to 9 local colleges and universities, and engaged the energies and talents of some 2,000 students. Table 1 pre-

TABLE 1(1)

PARTICIPATING COLLEGES (SEPT. 1954—JUNE 1955)	NUMBER OF VISITS *	
	3 TIMES OR MORE	10 TIMES OR MORE
Harvard University	120	100 (± 5)
Radcliffe College	100 (± 10)	75 (± 5)
Brandeis University	90 (± 10)	10 (± 5)
Sargent College	10	8 (± 2)
Wheelock College	6	4 (± 2)
Simmons College	4	4 (± 1)
Mass. Institute of Technology	2	0
Boston University	1	0
Regis College	1	0
TOTALS: 9 Colleges	334 (± 20)	201 (± 20)

* Each visit by a volunteer was for a period of from 1½ to 4 hours.

sents the colleges and universities in the Greater Boston area that have contributed students during the academic year September 1954 to June 1955, together with the number of students from each college and the number of times they have given service at the hospital. Table 2 presents the dis-

TABLE 2(1)

DISTRIBUTION IN PROJECTS	NUMBER OF VISITS *	
	3 TIMES OR MORE	10 TIMES OR MORE
Children's unit	220 (± 10)	110 (± 10)
G-3 Ward improvement project	35 (± 2)	30 (± 3)
E-2 Ward improvement project	30 (± 3)	20 (± 5)
Boston Psychopathic Hospital	20 (± 5)	10 (± 3)
Social casework, Group 1	11	11
Social casework, Group 2	8	8
Music program	3	1
Foreign language service	3	3
No. 3 Ward improvement project	2	2
TOTALS: 9 projects	332 (± 20)	195 (± 21)

* Each visit by a volunteer was for a period of from 1½ to 4 hours.

tribution of projects and the time spent on these activities.

Since the very great potentialities of undergraduate and university participation in state hospital programs are just beginning to be realized, we are reporting our experiences in the hope that this development will be exploited nationally to the utmost. The recent final report of the Joint Commission on Mental Illness and Health(3) wisely grasped the significance of this movement for the partial alleviation of the manpower shortage in hospitals, for recruitment of future personnel in the mental health field, for education of undergraduates, and vitalization of college life.

I. ORGANIZATION

The organization of the program is entirely in student hands. A student *executive committee* makes policy and coordinates activities. From amongst experienced volunteers, the committee appoints *project leaders* who are responsible for the integration of different student groups around prearranged programs. The project leader is assisted by *daily coordinators* who are responsible for transportation and services on any given day. (Transportation was formerly a serious problem because of inadequate public facilities, but lately has been greatly alleviated

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through private foundation funds obtained by the students.) The individual student signs in at the beginning of the year with the particular project and continues with that project throughout the school year. He joins a group of 5 to 15 colleagues who work at the hospital one afternoon or evening per week. Sufficient numbers of students are at work in any school year to insure service to patients 5 days and 3 evenings a week. During the summers, new groups may be organized by students attending summer sessions at Harvard.

The program, then, is a well-organized, usually smooth running affair, concerning itself with all aspects of recruitment, transportation, planning and execution of services, collection and distribution of material, liaison with hospital and university, and development of new frontiers. An overall *joint advisory committee*, made up of student leaders, hospital administrative and clinical officers, paid professional staff connected with the student research program, and special consultants, helps coordinate the multiple activities at the levels of service, education and research.

II. ACTIVITIES : WARD WORK AND CASE AID

At the hospital, students may be assigned either to ward work or case aid. *Ward work* aims at decreasing patient apathy and isolation and increasing social interaction. It consists of fostering recreational, occupational and social activities, including games, sports, gardening; taking patients out of doors or on shopping trips; helping them to upgrade the physical and social environment in which they live; improving self-care and personal appearance, and participating meaningfully in small activity or "club" groups. In effect, the students are *quasi-recreational and occupational therapists*, working under supervision of staff; and where professional staff is hard pressed or unavailable, they show an extraordinary ability to function intelligently on their own, causing remarkably little disturbance or disruption in the ongoing system.

Our impression as to the value of student volunteers in the ward setting is affirmed by a recently conducted controlled study of 2 comparable wards at Metropolitan State Hospital—one a control ward, and the

other activated by volunteers. To put the problem to severe test, wards with regressed, apathetic patients were selected. After a 2-year experimental period, the ward with the volunteers showed significant advance in the following areas: conceptual disorganization (p .05); activity level (p .01); withdrawal (p .01); whereas the control ward showed no significant changes. In addition, 10 of the patients from the experimental ward earned ground privileges and 3 of these were improved enough to be recommended to case aid program, often a precursor to discharge. Thus, the research study supports the clinical hypothesis: that student volunteers can be useful therapeutic agents with chronic patients.

The *case aid program*, carried out under close supervision of a social worker, involves 8 to 10 students per case aid unit, each student assigned to a given patient for the whole academic year. The goal is to make a relationship with that patient, to introduce him systematically to essentially non-patient activities through planned excursions off the ward and into the community, to help him achieve a better adjustment within the hospital, or to catalyze discharge and community resettlement. In this respect, students are *quasi-social workers* specializing mainly in problems of transition from hospital to community. Since their relationship with patients is on an intensive one-to-one basis, these students are selected with particular care, and both individual and group supervision are provided by the professional leaders. Five such groups are operating at the present time, 1 with children, and 4 with adults.

An example of successful case aid work with 1 patient is as follows(4):

Case B. H.—A 77-year-old woman, hospitalized 2 years, had shown symptoms of senility, confusion, disorientation, and memory impairment for several months before admission, which had become more pronounced after an automobile accident. The patient was particularly eager for a relationship and, quickly transferring to the student, cooperated immediately with plans for discharge. The aide established eligibility for public assistance, and found a nursing home where the patient could reside. After the patient left the hospital (within 2 weeks), the aide continued in a supportive and

reassuring way to help her adjust to the home and to relate to other residents there. The student took her for walks, brought her magazines, and, when the patient slipped into a confused state, which occurred periodically, visited more often and gave more reassurance. Also, through frequent meetings with the nursing staff, the aide helped staff to accept the patient and work with her more effectively. When the contact was terminated the student arranged with a relative of the patient and with individuals in the nursing home to substitute for her in meeting the needs of the patient.

Quantitative results of the case aid program indicate that, of 55 chronic patients hospitalized at least 5 consecutive years since last admission, and considered by staff to be unsuitable for early release from the hospital or for assignment to regular psychiatric or social service, 20% were sufficiently benefited by the case aid program to leave the hospital. Discharge of 20% of a group through case aid work who would otherwise certainly remain hospitalized is significant; however, the full story would also include the clinical improvement achieved in many of the others, and the substantial benefits to the patient from the devoted friendship of a young enthusiastic person representing the outside community and working for the patient without thought of monetary recompense.

In addition to the above activities which are outside the formal academic arena at Harvard, a specific course on volunteering was approved by the curriculum committee 3 years ago for credits and has since been offered yearly by the Department of Social Relations to qualified undergraduates. Thus the University administration has given its stamp of approval to the volunteer program and has recognized its significance in the moral and intellectual development of the undergraduate. In the 7 years of its existence, volunteering has proved to have a singularly impressive effect on the participants. Not a few students have said that it was more significant than any *course* at Harvard, and some have even claimed that it was altogether their most important experience during undergraduate years.

III. SOME CHARACTERISTICS OF THE MOVEMENT

It is difficult to characterize adequately a multi-faceted program of this type; however, two characteristics may be mentioned. The first is the driving urge of the students to get to the heart of the problems of mental illness and to take action with least delay. This relates to a wish verbalized by many volunteers to balance the ease, luxury and intellectuality of academic life with practical realities and substantial programs of action. In addition, many students express a sense of debt, if not guilt, at having been the recipients of so many emoluments thus far in their lives—a debt which they are most eager to repay when they witness the stark living conditions of the chronic psychotic individual in the hospital ward. This accounts too for their enthusiasm for working with back ward mentally ill, whom they regard as presenting the greatest challenge, and for their desire to make close personal relationships with the patients. Unlike older volunteers with whom we have had experience, who seem to be repelled by bizarre conduct and impoverished environment, students prefer to work directly on the wards. Thus, last year a group of undergraduates sought permission to live with the patients on the wards of the hospital in order to understand their situation more fully; and, based on this experience, decided to establish a cooperative "halfway" house in Cambridge wherein both patients and students would live together under the same roof, sharing all the problems incident to such group relations. This enterprise, unique in the annals of psychiatry, now rounding its first successful year of operation, is worth reporting.

The Cooperative Halfway House, "Wellmet"—It was chiefly those students who had been inspired by their experience of living on the wards who formulated the original plans for the cooperative house, "Wellmet." In the summer of 1960, they began to raise money to rent a home in Cambridge and to employ a house couple as supervisors, a psychiatrist, and a psychologist. Soon a group of students moved in, and arrangements were made for admission of 4 chronic psychotic patients—3 women and 1 man—whom the students had already befriended

in the course of their volunteer activities at the hospital. A rather close knit group developed, chores were assigned, social and recreational activities evolved through efforts of the residents together with help from students of the general volunteer pool. Considerable effort was expended in vocational rehabilitation so that whilst these patients initially were unable to work, they have during the 10 months improved sufficiently so that 3 are working and 1 is in training for a job. Financial problems in running the house are being solved by public contributions, income from residents, state support of patients under "family care" provision, and Rehabilitation Commission support based on their potential for occupational rehabilitation. This collaboration of State Department, Rehabilitation Commission, hospital, university, community, and undergraduates—all initiated and organized by students—represents a fine example of Yankee ingenuity and enterprise in the cause of mental health.

A case vignette will illustrate how the patient utilizes opportunities presented by the house :

G.F. is a 42-year-old unmarried female, diagnosed schizophrenic-catatonic ; hospitalized 15 years. In 1954, she responded moderately well to drugs ; but between 1954 and 1960 could be described as a plain looking, well groomed, socially apathetic woman who rarely, if ever, initiated social interaction, who worked only if asked to, and who "just sat" looking out of the corner window of the ward.

The hospital's rehabilitation goals were frustrated by the patient's lack of organized motivation as well as the persistent apathy and resistance of her relatives. Student volunteers worked with her for 3 successive years, finally overcoming both patient and familial apathy.

Admitted to the "halfway house" in July 1960, she has shown slow but steady gains. Unable at first to consider outside employment, she compliantly did house chores and only gradually accepted "work" from students, ironing shirts and then later typing manuscripts and papers. At this writing, April 1961, she supervises the small housekeeping chores of newly admitted patients, is working 4 days a week in outside employment, and is making concrete plans to leave the house.

The second quality characterizing the program is the resourceful problem solving

orientation and ability of the students. Whether it be transportation problems, collection of hundreds of items of clothing, decorating the bare wards, raising money for case aid leaders, or for setting up a halfway house, stimulation of other groups by lectures or conferences, or the writing of publicity and progress reports—there is a typical quality of creative imaginativeness which, together with the high drive, makes up a formidable and welcome force for progress.

IV. RECRUITMENT VALUE OF THE PROGRAM

In view of the great shortage of manpower in the mental hospitals of the nation, it is important to discuss the volunteer program as a potential instrument for recruitment of students to the mental health professions. When we speak of mental health professions, we include careers in psychiatry, social work, clinical psychology, occupational therapy, laboratory and research. Data collected before and after the case

TABLE 3(5)
Career Plans Before and After

CAREER CATEGORY	BEFORE		AFTER	
	NUMBER	PER CENT	NUMBER	PER CENT
Mental health	11	31.4	21	60.0
Non-mental health	11	31.4	11	31.4
Undecided	13	37.1	3	8.6
TOTALS	35	99.9	35	100.0

aid experience are especially interesting. Of 35 students, 11 had professed an interest in a mental health career before case aid experience, and 21 after, as shown in Table 3. Altogether 19 students underwent changes in their career preferences during the course of the experience, of whom 13 changed in the direction of selecting mental health careers. Those not interested in a mental health career nevertheless credited the program with a powerful educational impact which influenced their lives although not necessarily their career choice. Thus although the project proved an important recruitment device to attract desirable young people into the mental health field, perhaps an even greater consequence is its overall educational value which will pay off in greater understanding, involvement and in-

terest in mental health on the part of a potential leadership group. Indeed, as we have seen, a considerable impact has already been felt by the hospital, the university community, the families and friends of student volunteers (including legislators), and in the formation of volunteer movements elsewhere.

V. THE NATIONAL PICTURE

An attempt is being made to obtain a picture of the extent to which college students across the nation are being used as volunteers in mental hospitals. During the years of the existence of this project, we have attempted, wherever feasible, to stimulate or consult on the formation of programs elsewhere. Thus, we have reason to believe that the Middletown-Wesleyan program in Connecticut, Lehigh in Pennsylvania, Central Lake Hospital in Kentucky, and one in Amsterdam, Holland, have been greatly assisted by local efforts; and, through consultation and information sharing, Kansas, South Dakota, California, Colorado and Washington have been positively influenced. Recently, Dr. Warren Vaughn organized a regional conference on student volunteering in Colorado with emphasis on activities of the Western Interstate Commission for Higher Education and with consultants from other areas.

Of an initial sample of 139 colleges contacted by questionnaire, 89 (64%) have replied, and of the respondents, 37% have indicated that they do have a volunteer program; 14 additional colleges known to have programs have not responded. Combining the mail survey with extensive correspondence, we find that a total of 87 colleges either have functioning programs on campus (37%) or have students participating in programs run by outside organizations (50%).

Although the achievements are considerable, lack of close coordination of student program with faculty and hospital personnel, and lack of adequate supervision from these sources are often listed as dissatisfactions, and account for many drop outs. This too has been the experience of the Boston program. Apparently considerable attention will be needed from faculty and hospital personnel to counteract the tension

and confusion felt by many students working with severely regressed individuals. Although students feel very strongly the value of the work they are doing, the stresses are sufficient that many are often unwilling to repeat the experience during another year. There are also new interests and distractions coming up in successive college years that compete with volunteering for the students' attention. However, the fact that 87 colleges (and this out of a sample of only 139 colleges) have permitted or fostered student volunteer relationships with mental hospitals is encouraging and suggests that hospital-university collaboration is already well on its way with new manpower, enthusiasm and hope for the mentally ill.

SUMMARY

Briefly described is the student volunteer movement initiated 7 years ago by undergraduates of Harvard and Radcliffe, which has organized services to the mentally ill at the Metropolitan State Hospital in Massachusetts, by mobilizing 9 colleges and universities in the Boston area, and altogether over 2,000 students. Two major forms of activities are prosecuted: ward work and case aid. The former concerns a variety of services to patients on the ward essentially in groups in which volunteers act as quasi-recreational and occupational therapists. The latter concerns one-to-one relationships between volunteer and patient in which the volunteer functioning as quasi-social worker attempts to aid patient in transition from hospital to community.

The movement is characterized by intense eagerness of students to get to know the problems faced by the patient and the hospital, high motivation to do something about these, and considerable creativity in working out solutions. An example of the latter is the recent establishment of a co-operative halfway house in which students live together with chronic patients selected for discharge and rehabilitation in the community. This unique enterprise appears to have therapeutic assets somewhat different from the conventional halfway house and deserves serious consideration as a transitional model for similar facilities elsewhere.

Undergraduate volunteering appears to

be an effective means of recruiting promising young people into the mental health field. It has definite possibilities for at least partial relief of the serious manpower shortage in our mental hospitals.

ACKNOWLEDGMENTS

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CLINICAL OBSERVATIONS OF SIMULTANEOUS HALLUCINOGEN ADMINISTRATION IN IDENTICAL TWINS¹

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This study presented a unique opportunity for documenting the effects of the hallucinogens lysergic acid diethylamide (d-LSD-25) and psilocybin on identical twins with similar environmental backgrounds. Interest in this study centered on the following areas:

1. Effects of environmental influences and personality interaction during the drug induced state;

2. Relation of behavioral patterns to the specific pharmacological actions of the drugs.

Clarification of the action of hallucinogens has been important because of their potential value in controlled psychiatric research, recent interest in their therapeutic application, and problems developing from their indiscriminate use by individuals obtaining these drugs illegally.

DESCRIPTION OF TWINS

The subjects were 26-year-old white male monozygotic twins whose origin was established on the basis of identical appearance, finger prints and blood groups. Hospitalization resulted from a long history of psychopathic acting out behavior. Repeated conflicts with the law brought them to Bellevue where the diagnosis of schizophrenia, undifferentiated type was made and they were then committed to a state hospital. Following this, they were transferred to Psychiatric Institute as part of a twin research study project.

They were born in Kentucky and placed in a foundling home shortly thereafter. Twin B was several hours younger than twin A. The mother has been in a state hospital for many years. The father's whereabouts is unknown. No further information is available about either parent. At 10

months they were adopted by a young couple living in a marginal slum area of Brooklyn, New York who raised them in the Jewish faith. A sparse, inadequate history was obtained from the foster mother in which she described herself as the more stable of the 2 foster parents. The foster father was described as an itinerant trucker, luncheonette worker and butcher who drank heavily for many years. He often beat the foster mother in the presence of the twins. He favored twin B, who would go to him in time of trouble. Twin A was closer to his foster mother and spent more time with her. A step-sister and brother were born 4 and 11 years after the adoption. The siblings were all reported to have gotten along well together. From a very early age the twins proved difficult to manage. They were frequently rebellious, hostile and antisocial. When they reached their late teens the foster parents began to tire of their behavior and disclaimed responsibility for them. Both twins married in their early twenties and fathered children. They were repeatedly separated from their wives. Twin A became an apprentice painter for a foster uncle while twin B earned his living through a series of odd jobs. Throughout their lives they had been inseparable except for a short period in the armed services. Both received undesirable discharges.

After hospitalization at Psychiatric Institute, some differences in their basic personality structures were noted (Figure 1). Twin A was better looking and, when initially encountered, quieter, better integrated and more sophisticated. Twin B was more primitive in appearance, and, when first seen, appeared more hostile, less reserved and with less social veneer than his brother. It soon became apparent on the ward that twin B would act out the aggressive and antisocial impulses of twin A. For example, one day twin A expressed a strong desire to visit a bar, became aggressive and hostile when his impulse was thwarted and

¹ Read at the 117th annual meeting of The American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

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FIGURE 1
Comparison of Personality and Behavior Patterns

TWIN A	TWIN B
Appearance—Better looking	Appearance—Primitive
Integrated	Hostile
Quieter	Less reserved
Sophisticated	Unsophisticated
Traits—Depressed	Traits—Cooperative
Demanding	Cheerful
Surly	Passive
Frequent aggressive outbursts	Fewer aggressive outbursts
Poor psychotherapy candidate	Fair psychotherapy candidate

had to be transferred to a more restricted ward. A short time later twin B who had heard of the incident slipped out of the hospital, got drunk, started a fight, and had to be subdued by the police and forcibly returned. This situation bears a resemblance to the behavior of the twins described by Dumas in his novel *The Corsican Brothers*.

After several weeks' separation, twin B became less disturbed and better integrated than twin A. It was felt also that he began working better in psychotherapy. Twin A, on the other hand, had frequent aggressive and destructive outbursts and could not be engaged in sustained psychotherapy. His usual behavior was demanding, hostile and slightly depressed.

On psychological tests, twin A had an I.Q. of 101 and twin B of 95. Both showed marked immaturity of social judgment, great difficulty in controlling aggression, disturbed body image, confused psychosexual orientation but in the absence of a formal thinking disorder.

METHOD

Each twin was put in an identical room on adjoining wards. An observer was assigned to each and kept records of their verbal productions. The project supervisor checked each subject at 15-minute intervals. Each subject received 61 micrograms of d-LSD-25 orally in the first study and 24 mg. of psilocybin orally in the second. The trials were 2 months apart.

OBSERVATIONS AND CONCLUSIONS

It was observed that the affective response most characteristic of each twin was

initially intensified after administration of a hallucinogen. It was also noted that the affectivity of one twin was communicated to the other irrespective of the initial affective response of either. For example, the tendency for twin A to be depressed was intensified by the hallucinogen d-LSD-25, whereas twin B, who usually tended to react with sardonic humor, became euphoric. It was possible for twin B to communicate his euphoria to twin A against his sibling's will. In this instance, twin A was demonstrating an affective response unrelated to the chemical action of LSD but directly related to the interactional process with his twin. The film demonstrates how, through an interactional process, the affectivity of one individual can be communicated to another. In the psilocybin study the reverse occurred with the deep depression of twin A being communicated to twin B, who initially reacted to the drug stress with mild irritability and sardonic humor.

The chief reason for choosing identical twins for this study was that it presented a unique opportunity to administer an identical amount of drug in the same time interval and setting to 2 individuals with identical genetic make-up. If the resulting behavior were due solely to the action of the drug, we would have expected it to be the same in both twins. Since it was not, any explanation of the behavioral differences had to take into account extra-chemical factors.

A marked variability of affect, rapidly altered by interactional factors but difficult or impossible to control, was frequently observed.

The main advantage of filming these hallucinogen studies lay in the production of a permanent graphic record of behavior

which can be studied at leisure for investigation and teaching purposes. Such films can be shown to large groups who would ordinarily, because of practical reasons, be unable to view these studies. In addition, subtle aspects of non-verbal communication may be studied through repeated viewing of selected segments of the film. Among the disadvantages encountered was the inability to depict the proprioceptive and perceptual disturbances adequately on film. For example, visual hallucinations could not be demonstrated and unless the patient made some attempt to draw or outline them in the air they remained undescribed. Even then the result was inadequate. The lack of sound too was a serious shortcoming which we hope to rectify in the future. This would lead to more effective correlation of verbal productions with behavioral changes.

SUMMARY

1. Different initial affective responses occurred in identical twins under the influence of d-LSD-25 and psilocybin.

2. These affective displays were related to the differences in personality between the twins.

3. It was possible for the affectivity of each twin to influence the affective response of the other at various times during the studies.

4. This communication of affect substantiates the hypothesis that affective responses associated with hallucinogen administration are personality specific rather than drug specific (1, 2, 3, 4, 5).

5. The drug specific changes in the autonomic, proprioceptive and perceptual spheres were similar in both twins and not modified to any noticeable extent by environmental influences.

6. Because of their profound effects, hallucinogens should be restricted to research use exclusively in a hospital setting. In our opinion, their use at this time for any other purpose or in any other setting is dangerous.

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DISCUSSION

IAN GREGORY, M.D. (Minneapolis, Minn.).—This paper raises 2 important questions : How much can we learn from the administration of hallucinogenic drugs to man ? How much can we learn from the study of human twins ?

The administration of psychotomimetic agents has sometimes been undertaken in the hope of obtaining further information about the causation of naturally occurring psychiatric disorders. However, the experimental replication of such disorders, or of various hypothetical causal situations, is usually not possible. Attempts to reproduce so-called "functional" psychiatric syndromes such as the schizophrenias by means of various toxic agents or by biological deprivation (e.g., of oxygen, vitamins or sleep) result in the development of organic brain syndromes, having some similarity with "functional" disorders but not identical with them. Deductions about "functional" psychiatric disorders, from observations made on patients with naturally occurring or artificially induced brain syndromes, constitute one form of argument by analogy, which may suggest further lines of investigation but provide no definitive evidence as to etiology.

Of recent years, interest in the psychotomimetic drugs has been revived by their empirical application to the treatment of psychiatric patients, but well controlled comparisons between series of patients receiving hallucinogens and other forms of treatment have been lacking.

Twin studies ordinarily involve comparisons of similarities in phenotypic manifestations (e.g., intelligence, personality characteristics or psychiatric disorders) between monozygotic and dizygotic co-twins and/or between monozygotic twins reared together and monozygotic twins separated at birth. Theoretically, such comparisons should permit statistical estimates of the relative contribution of hereditary and environmental influences in determining phenotypic manifestations. They do not permit any deduction concerning possible mechanisms of inheritance. Moreover, reliable estimates of hereditary and environmental factors require

accurate specification of the characteristic under investigation, accurate diagnosis of zygosity by modern serological techniques, and reasonably large series of twins for comparison. Even should these criteria be met, there exist certain biological biases of unknown magnitude which have led competent human geneticists to question how much reliable information may be expected from further studies of this nature.

Neither the administration of hallucinogens

nor the study of twins have hitherto provided conclusive evidence concerning the etiology of "functional" psychiatric disorders. However, the presentation under discussion contains interesting narrative material on the simultaneous development of artificially induced toxic brain syndromes in 2 individuals presumed to have identical biological potentialities, but differing to an unknown extent in their pre-natal and post-natal experiential background.

ULCERATIVE COLITIS IN CHILDREN¹

STUART M. FINCH, M.D., AND JOHN H. HESS, M.D.²

INTRODUCTION

Ulcerative colitis in both children and adults has been an enigma for years in spite of many proposed hypotheses as to its etiology and treatment. It remains a serious illness and our treatment is only partially successful whether we be internists, pediatricians, surgeons or psychiatrists. Since Murray's (8) paper in 1930 first delving into the psychological aspects of this disease, many others have tried to elucidate the emotional factors and their contribution to ulcerative colitis. The majority of work has been done with adult patients and probably the most useful and comprehensive is contained in Engel's papers. Others have studied children with this disease in the hope of getting a firsthand view of its origin and early development. It is our purpose in this paper to review a series of 17 children with ulcerative colitis studied at Children's Psychiatric Hospital and relate our findings to the previous work of others; to offer certain dynamic and genetic speculations, and also to draw some tentative conclusions regarding therapeutic principles.

BACKGROUND

For a review of the literature the reader is referred to Engel's excellent work (3). In these studies Engel attempts to organize certain psychological formulations concerning ulcerative colitis into a single construct, taking into account pathophysiological data. He develops a hierarchy of gastrointestinal function beginning with the bowel as a limiting membrane in early life, and extending to its highly integrated, learned, and symbolic activities of later life. He suggests that different levels of physiological integration are associated with specific levels of psychological integration. Engel's observations of patients lead him to believe that a

state of anxious hopelessness and despair based on the disturbance of a "key relationship" (usually between mother and child) may be accompanied by altered physiological phenomena in the gastrointestinal tract, characteristic of ulcerative colitis. The mother (or mother surrogate)-child relationship is described as "transactional," in which the child develops a "surrogate ego," i.e., an ego which is functionally and permanently dependent on the mother. The mechanism by which the bowel is affected in such a process is not clearly described by Engel; however, he suggests some type of constitutional or congenital bowel defect.

The personality characteristics which have been most frequently described for the adult ulcerative colitis patient include an obsessive-compulsive character with guarded affectivity and rigidity; immaturity with a pseudomature veneer, but underlying petulant infantilism; a difficulty in effectively expressing aggression; a hypersensitivity; a marked use of denial, and disturbed object relationships with inadequate sexual identification and underlying depressive trends.

The literature specifically related to ulcerative colitis in children reveals personality descriptions similar to those elaborated for adults. Prugh (9) describes the child with ulcerative colitis as "passive, rigid, dependent on parental figures, especially the mother, socially inhibited, narcissistic, and emotionally immature," with "compulsive needs to conform exaggeratedly to social dictates." Prugh further states: "There is a decreased integrative capacity of the personality," and that these children are "relatively unable to express effectively strong feelings of anger or resentment, especially in relation to parents or authority."

Again one finds considerable agreement among investigators regarding the possible genesis of this illness in children (as well as in adults). The role played by the early mother-child interaction is stressed, as are the conflictive experiences during the oral and anal stages of psychosexual develop-

¹ Read at the 117th annual meeting of The American Psychiatry Association, Chicago, Ill., May 8-12, 1961.

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ment. Hence, Prugh, while recognizing the pathogenic nature of the mother-child relationship, indites difficulties in toilet training as the primary etiological agent in ulcerative colitis. Sperling(10) points out the conflict between the mother's needs to keep the child dependent upon her and her own unconscious destructive impulses toward the child. She feels that the mother is rejecting only the healthy child and that in response to this condition of acceptance, the child becomes ill. It should be noted that Sperling feels that the maternal rejection of the healthy child in the "psychosomatic mother" is to be contrasted with the complete rejection of the child in the "psychotic mother." Benedek(2) describes the mother-child symbiosis as a "primary psychosomatic unit" and believes that inadequate mothering during the early months of life has a definite relationship to the depressive constellation which she considers of primary importance in the psychopathology of this disease. Gerard(5) says, "Adequate motherliness offers a healthy environment in which the adaptive tasks remain within the infant's capacity, and ego habits become those which keep the infant physically comfortable in a maximum and acceptable relationship to the environment." She goes on to state, "Since early adaptation is mainly that of an adjustment of the various body organs to their various functions in extra-uterine conditions, it is reasonable to suspect that later maladaptions of the organ due to emotional causes may arise from emotional difficulties experienced in the first months of life, when patterns of responses are initiated." Somewhat similarly Garner and Wenar(4) conclude that the "psychosomatic mother" clearly demonstrates negative feelings about the actual training and care of the infant, particularly as related to his physiological functions. This unconscious negative attitude meets with the social dictate that "good" mothers do not express negative feelings toward their offspring and the mothers then tend to behave consciously in a solicitous and over-controlling fashion which nurtures excessive dependence and yet a constant insecurity in their children. According to this concept, such a relationship leads to the development of the psychosomatic disease due to the "disarticula-

tion of the basic physiological responses of the child from the smoothly integrated development of bodily and psychic components seen in the healthy individual."

PRESENT STUDY

Our report is based on a study of 17 children suffering from idiopathic ulcerative colitis. There were 9 males and 8 females ranging in age from 4 to 14 years. The investigation included a detailed case history and family evaluation by the social caseworker, psychological testing and psychiatric evaluation of each child. In addition, 11 of the patients were followed in therapy over periods varying from 4 months to 3 years.

SOCIAL DATA³

In regard to the case histories, no significant patterns could be elucidated with regard to such factors as age, sex, race, religion, number of siblings, sibling position, socio-economic status⁴ or apparent external precipitating stress. On the contrary, the variation in these factors was extremely wide. Four of the 17 children were only children; one was a twin; one was an adopted child. In 2 cases an older sibling had had ulcerative colitis—the only cases of positive family history. Two children had stepfathers and one a stepmother. In 2 families the natural father had died, and in one family there had been a divorce.

However, in all cases, the parental relationships revealed a passive, ineffectual father and an aggressive, dominating mother. Superficially the fathers might initially appear effectual and the mothers occasionally feminine, but closer scrutiny proved otherwise. A striking observation by the social worker was the inability of all these parents to express overt hostility in an appropriate manner. The relationships between the fathers and sons seemed to show little emotional involvement, while on the contrary, that between fathers and daughters was deep and best described as seductive. In all cases, the mothers appeared

³ This material was prepared by Roscoe Miller, MSW, formerly of the Social Service staff, Children's Psychiatric Hospital.

⁴ None of our patients was from the lower social strata, but this may be due to selective factors rather than a characteristic of the disease.

dominating and controlling toward the patient, regardless of sex. The child was the object of hostility and rejection by the mother, but this was rarely overtly expressed. The mothers reacted consciously in the opposite fashion, demonstrating extreme, though superficial, concern for the child and demanding complete submissiveness from him. The mothers also had a tendency toward seductiveness for their sons. In many cases, the mother's negative attitude was shown in her apparent need for illness in the child; thus providing an opportunity for her to demonstrate her concern for the youngster.

Intense sibling rivalry was frequently described, and other siblings were usually reported to be more outgoing, spontaneous, and aggressive than the patient.

Most of these families tried to present a picture of normal, healthy, family life. The patient's early history was usually presented as insignificant. However, in all cases there was ample evidence of previous emotional disturbances such as feeding problems, difficulty in toilet training, temper tantrums, enuresis, extreme shyness, school maladjustment and poor peer relationships.

PSYCHOLOGICAL TEST DATA ⁵

Due to wide age ranges of the patients, a variety of family constellations, sex differences, and a variation in the time of onset of the disease with respect to the time of psychological testing, a great deal of heterogeneity of material was obtained on projective tests. The following can be considered only as broad, general trends, observed in the fantasy and free associations of these patients on such projective instruments as the Rorschach, TAT or CAT, Figure Drawings, and the Sentence Completion Test.

The mean chronological age for the total group of children was 11 years and 5 months. The mean I.Q. was 116, with a range of 91 to 147.

Despite minor variations, all the males were essentially passive, and all had mark-

edly impaired sexual role definition. The essence of the mother-son relationship is the castrated role played by the son; this relationship is hypercathected to the extent that father figures are seldom mentioned. The boys are seen as intensely dependent upon their mothers, whom they regard as infallible. Achievement is viewed as a key to maternal approval. All males had markedly impaired capacities to relate to other people; all were constricted; and all were more or less resigned to their fates. What was lacking in these boys was a direct and open manifestation of the underlying hostility and willingness to face the fact that they had such intense dependency needs. All showed depressive trends. In every male, evidence indicated marked stimulation by the external environment, but simultaneously controlled affective responses to it. Sado-masochistic material appeared in all records. Many records showed evidence of borderline thinking.

The females, like the boys, were involved in an intense relationship with their mother. The younger girls seemed to have identified with this dominant mother figure, and were involved in an intensely competitive interaction with her. The older girls had tended to withdraw into a preoccupation with fantasy material designed to resolve their conflicts over their hostile feelings toward the mother by virtue of an idyllic, romantic union with a Prince Charming. All records indicated pseudo-maturity. While the girls, unlike the boys, dreamed of escape from the hated mother figure, if forced to accept maternal domination, the girls, too, reacted depressively. All females perceived their mothers as intensely narcissistic, the manipulation of which was necessary to insure limited dependent supplies. Direct expressions of hostility toward the mother are not sanctioned, and again approval is obtained by achievement. The girls vie with the mother for control of males, who are seen as inferior to females. A subtle, seductive relationship exists between father and daughter. All of the girls showed a primary oral fixation covered by compulsive-like defenses. Sado-masochistic trends are common. Beneath a facade of narcissistic adequacy, the self-percepts are exceedingly poor. Generally, the females are poised,

⁵ The authors are indebted to Bettie Arthur, Ph.D. for this material which is to be published under the title "Parent-Child Interaction in the Fantasy Productions of Children with Ulcerative Colitis."

pseudo-mature intellectualizers who are bland and affectless. However, some showed marked hysterical qualities and others deep-seated and severe borderline states.

It is possible to specify certain similarities in the personality structures of all the children. The most important finding is the hypercathexis of the mother-child relationship, with profound and intense interactions resulting in conditional ego functions and inadequate relationships aside from that with the mother. All children are torn between their needs to express hostility and their need for a close dependent relationship with the mother, resulting in conformity and compliance. Sado-masochism is found in every child. Depressive reactions are observed in all children. The defensive structure is essentially compulsive, consisting for the most part of isolation, intellectualization, displacement, reaction formation, and a generalized constriction of the personality. All children manifested poor sexual role identification. All view the mothers as dominating and inconsistent, varying between a hostile and/or over-protective figure. All children view their mothers as basically rejecting and insensitive to the child's needs, due to her own narcissism. The mothers are seen as prohibiting direct expressions of both sexual and aggressive impulses and requiring conformance to strict standards. All children view the fathers as passive men, dominated by their wives, ineffective in all roles, and truly an unimportant member of the family.

PSYCHIATRIC DATA

Despite the sex differences and rather wide age variation, the psychiatric evaluations of the 17 children were strikingly similar.

No patient was found to be free of significant previous psychopathology, consisting of such things as feeding problems, sleep disturbances, enuresis, nail biting and thumb sucking, temper tantrums, other psychosomatic illnesses, etc. Significant problems centered around sibling rivalry were present in 15 children. The onset of the illness could be related in most cases to a real or fantasied disruption of a close and important relationship, usually with the mother. This disruption could be brought

about by such external events as the birth of a sibling, beginning school, illness, or divorce; or by such symbolic phenomena as extreme hostility, independent accomplishment, or the onset of puberty.

The personality characteristics of these children are strongly reminiscent of those ascribed to adult ulcerative colitis patients. The children exhibited obsessive-compulsive character traits and were constricted, defensive, guilty, and covertly hostile. All had problems involving sexual identification. They tended to behave in a pseudo-mature fashion, but their inability to handle stress revealed the "brittle" nature of the personality structure. Under even minor stress the precarious defensive operations gave way to infantile responses, and the child would be thrown back upon denial as the primary defense.

Primitive fantasies involving the patient's body (sexual and digestive organs) were common, and there was repeated concern that the body was somehow faulty or defective. Perhaps related to this deeply ingrained self-concept was the constant need on the part of these children to achieve, and to think and behave "like a good child."

Two of the older girls showed some hysterical features in addition to the characteristics described above, including hyperemotion reactions, active oedipal problems, and a tendency toward conversion phenomena. There were 4 patients, the youngest (ages, 5 to 7), who presented somewhat contrasting personalities. These were overtly immature, petulant, dependent, omnipotent, demanding, and manipulatory.

All of the patients were considered to have difficulty regarding independent strivings, and revealed extreme conflicts in dealing with aggressive impulses. As might then be expected, all were felt to be chronically depressed, though this was frequently covered with a thin veneer of happiness and contentment. An interesting finding was that these children seemed to be free of certain more florid psychological illnesses, such as full-blown neuroses or psychoses. It was as if the ulcerative colitis served in some way to protect them from such diseases.

An attempt was made to relate the psychopathological findings described above

to the developmental stages of the personality. It seemed clear that the infantilism and omnipotence, the demanding dependency, and the narcissism and bodily concern stemmed from conflicts in the oral period of psychosexual development. The marked compulsive characteristics, the guilt, the problems with hostility and independence, and the prominent sado-masochistic trends could be related to difficulties experienced during the anal stage. However, no specific (symbolic or otherwise) relationship could be established between these characteristics and the disease process. Frequently, the bowel and its contents appeared to have achieved secondary symbolic significance, but no primary connection could be established between anal conflicts and the bowel symptoms, such as might be seen in the encopretic, who in response to his tremendous aggressiveness goes around "crapping" on everybody. In general, the characterological distortions and the psychodynamic conflicts seemed in no way different from similar disturbances which might be observed in a child without ulcerative colitis.

DISCUSSION

Our studies of these children suffering from ulcerative colitis have led us to some limited conclusions and some speculative concepts.

Despite our hope, no clues could be found to indicate why, from the psychological point of view, these children developed ulcerative colitis. No primary relationships could be established between the nature or extent of the psychological disturbance and the gastrointestinal symptomatology. No specific or unique factors could be found in the psychological development of the children. No specific family patterns existed to account for the child's developing ulcerative colitis, as contrasted to bronchial asthma or an obsessive-compulsive neurosis, *etc.* No unique findings were elicited from psychological testing. No specific or consistent clinical picture presented itself which could explain the colitis.

The problem of organ choice in psychophysiological illnesses has been discussed by Kubie(7), Gerard, and others. These authors suggest that a multitude of factors,

some known, some unknown, and some perhaps unknowable, may influence the specific organ involved. It is apparent that innumerable experiences occur in the life of any organism between conception and the time at which its psychophysiological apparatus has achieved a certain degree of fixation. Hence, it is suggested, psychosomatic diseases may be multiply determined and varying factors may have varying influences in any one patient. Such factors include the genetic and/or constitutional equipment with which the individual is endowed, producing either undue sensitivity of an organ system or perhaps even a specific defect. Also, one must consider the possibility of pathological influences acting on the fetus prior to birth. Another possibility is what Prugh calls a "psychic inheritance," in which family characteristics and attitudes toward physiological functions are handed down from one generation to another. In addition, there are a host of possible coincidental or contingent factors such as physical trauma or diseases at critical periods in the organism's development. One must consider psychic traumata based not necessarily on pathological interrelationships, but simply on ignorance of parents or those caring for the child. Finally, one must take into account the specific environmental conflicts which we have described, and which exist primarily between the mother and child in the pregenital stages of psychosexual development.

The characteristics of ulcerative colitis (1), namely the wide age variation, the inconsistency in severity and clinical course, and the ubiquitousness suggest that we are dealing with a disease having a broad genetic, constitutional, or congenital base, perhaps affecting a large segment of the population. However, the relatively low incidence of the disease, its constancy among members of all socio-economic groups(6), along with the definite psychological elements, suggest that in many cases a non-organic factor must be present in order that the disease become manifest and/or perpetuated. A formulation of this kind implies that we must view this disease in a less rigid fashion. We must evaluate the individual patient as a total unit within a sig-

nificant social setting, rather than attempting to force the patient and his illness into a preconceived framework, whether it be "psychological," "organic," or both.

We might at this time hypothecate the development of a "typical" case of a psychosomatic illness, taking into account the concepts derived from the literature, as well as our own experiences and observations.

A child is brought into existence with, by virtue of some constitutional or intra-uterine factor, a capacity to respond in a specific pathological fashion based on a specific pathophysiologic defect. This child then finds himself dependent for his existence and gratification on another individual (mother figure) who is not only rejecting, but is perhaps unconsciously seeking his destruction, or at least a state of ill health which engenders extreme dependency. Due to the narcissistic needs of this mother figure which she is unable to satisfy due to specific pathological dynamic family interactions, the child is required to maintain an unflagging dependence and total loyalty to her. In addition, the very physiological functions vital to the life of the child are held in lowest esteem by the mother figure. In such a family system and within such a maternal relationship, the child is deprived of any adequate gratification of even the most basic needs and develops a suspicious existence which is found in a negative symbiotic relationship. As development proceeds, accidental or coincidental experiences could occur to further sensitize the physiological maladaptation and serve to intensify disturbances of the psychologic-physiologic union. As the child reaches toward his independence and autonomy, the incapacity for personal adequacy is magnified and he may despair of success and fall back on the conditional surrogate existence of his earlier months. The rage herein engendered, acting as a threat to this conditional existence, must be suppressed. Any discharge of such aggression would necessarily be regarded as dangerous and be accompanied by anxiety. The development of an objective physical disease would then represent a rather successful and impregnable compromise for the child, the mother and the rest of the family.⁶ Following this, further elaboration and distortion of both the psychic and somatic com-

ponents of this pathological state could take place. With such an "excellent" solution to the mutual psychopathology of mother and child and family, the pathologic process need not progress to more florid stages of mental illness, such as specific neuroses or psychoses.

TREATMENT

In the course of treatment of the children we studied, certain findings were noted. Transference relationships were intensely dependent and demanding, but readily disrupted. It would appear that despite the immense emotional investment made, this could be withdrawn with comparative ease. Furthermore, the patients were remarkably free in their relationships, tending to become closely attached to nurses and staff. It was as if they had a bottomless pit into which endless amounts of love could disappear. The typical patient approached therapy in a highly intellectual and defensive orientation. It was difficult for them to speak of feelings, at times so difficult that one suspected they were incapable of recognizing and identifying their own feelings.

It seemed impossible for these children to exist except in terms good or bad. Every thought, feeling, or piece of behavior was judged in this light. Everything that was considered bad had to be atoned for, and the good served only to cause concern that they would not be able to live up to it in the future. The most bland comments by the therapist were also viewed in this context. Apparently, due to the exceedingly poor self-concept, anything viewed as criticism was accepted as absolute and desolating truth, while praise was received tentatively and suspiciously. Independent competition with the therapist was strictly avoided on the supposition that the therapist could not possibly love such a presumptuous person. Direct expressions of hostility were rare, and when they occurred they were followed by almost panicky efforts to undo and to atone. Hostility was for the most part seen in infantile and ineffective maneuvers, such as pouting, petulance, and passive ag-

⁶ Vogel, E. F., and Bell, N. W.: *A Modern Introduction to the Family*, p. 382. Glencoe, Ill.: The Free Press, 1960.

gressiveness. Frequently, hopeless and despairing depressive reactions would replace expected aggressive responses. The child conceived himself as peculiar and damaged, unworthy of being loved and incapable of ever fulfilling the awesome criteria for being loved. Often the illness was utilized as a means of omnipotently controlling the therapist and to frighten him into avoiding anything which would upset the patient. Because of the enormous need for oral dependent supplies, the patient continually felt disappointed in the therapist and exercised demands which could never be met.

Our experience had led us to certain tentative conclusions regarding broad therapeutic principles. First, that no single branch of medicine has the answer to this complex disease. The treatment of these youngsters today is determined in most cases by the specialist to whom he is referred. Unfortunately, complete cooperation between these various specialists exists only in rare instances. We would, therefore, suggest initially the close cooperation of a team of well-trained physicians who are capable of recognizing the multiple facets of this disease and reaching mutually understood decisions regarding the patient's care.

Next, we would propose that all concerned in the treatment of these children recognize them as suffering from severe psychopathology, often close to psychosis and that all possible measures, including work with the family, are essential. These youngsters must be considered as long-term therapeutic cases in much the same way as a youngster who has suffered a schizophrenic psychosis, who, while the overt psychosis may have disappeared, needs assistance for a long period in regulating his life and handling his emotional stresses.

The actual psychotherapy of these children rarely can follow strict psychoanalytic principles. The intense involvement between parent and child and the function of the illness as a problem-solving device for intrapsychic, intrafamilial, and social conflict, often dictates the necessity for a therapist to assume a strong and active treatment role both with the parents and the child. He must, in a sense, intervene emotionally and be prepared to remain a strong force in the intrafamily dynamics for a long period

of time. In the majority of cases, no single and unique psychic conflict will be elicited which, if resolved, will produce a "cure." While maintaining the supportive role, the therapist must continually invite the patient to accept a less dependent relationship, to assume greater independence and initiative and to express more openly the tremendous and sadistically-oriented aggressiveness. For this to occur, the patient must be made to feel safe and secure, and the therapist must be unusually careful to avoid retaliation and condemnation. It should be recognized that "permissiveness" does not fulfill these requirements. In some instances, such a therapeutic program can be accomplished on an outpatient basis, while in other instances hospitalization is essential; this may at times be on a pediatric ward, at other times in a psychiatric service.

SUMMARY

A brief review of the literature regarding idiopathic ulcerative colitis in both children and adults is presented. The results of our study of 17 children suffering from ulcerative colitis are given, including social, psychological, and psychiatric data. These findings are then discussed and conclusions regarding the work of other investigators and certain psychological formulations are drawn. A speculative hypothesis concerning the etiology of this disease is offered, and some therapeutic principles are suggested.

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MENTAL CAPACITY AND INCOMPETENCY : A PSYCHO-LEGAL PROBLEM¹

ROBERT ROSS MEZER, M.D., AND PAUL D. RHEINGOLD, LL.B.²

The psychiatric literature contains many papers which deal with mental capacity in specific legal areas. Usdin(18) recently considered testamentary capacity, as did Szasz(17) and Aschaffenberg(1). Crawford(4) wrote on the relationship between discharge from state hospitals and competency, and many papers have been written on criminal responsibility. The legal literature likewise tends to consider only specific legal areas of mental capacity. Curran(5), for example, wrote about the tort liability of the mentally ill, the Michigan Law Review(13) had a note on the effect of mental illness on contracts, the Cornell Law Quarterly(12) had a note on civil insanity in New York, and Slough(14) has written several articles, including one on the capacity to stand trial. A few attempts have been made to consider the problem from an overall point of view; note especially articles by Green(7, 8) and Cady(3). The reader might also consult Guttmacher and Weihen's *Psychiatry and Law*(9), Davidson's *Forensic Psychiatry*(6), or Mezer's *Dynamic Psychiatry in Simple Terms*(11).

In practice, the psychiatrist and the attorney usually meet to consider the question of some one particular capacity arising in a specific case. However, we thought that an overall view of the problem might increase the psychiatrist's understanding of the task involved and thereby make him more effective and valuable to the legal system. To present this broad view we consulted not only the legal and psychiatric literature, but also surveyed the leading appellate cases over the last half century, as well as state statutes and selected trial transcripts.

Before proceeding further, a word should be said about legal terminology. The terms "incapacity" and "incompetency" are often

used interchangeably by the law. They refer, generally, to an individual's fitness to behave or act in certain situations(20). In reading cases one also encounters such terms as "*non compos mentis*," "insanity," "lunacy," and "weakness of mind," all of which are holdovers from previous days and have roughly the same meaning as incompetency.

INCIDENCE OF THE PROBLEM

Legal actions can occur only between people, so that the law can be regarded as interpersonal in nature. The question of the mental competency of any individual involved in any legal action can always potentially be raised, and, indeed, the question has arisen in every type of legal transaction, whether civil or criminal, whether judicial, administrative, or negotiatory. Table 1 lists some of the specific legal areas involving mental capacity.

TABLE 1
Legal Areas Involving Competency

1. Making a will (testamentary capacity)
2. Making a contract, deed, sale
3. Being responsible for a criminal act
4. Standing trial for a criminal charge
5. Being punished for a criminal act
6. Being married
7. Being divorced
8. Adopting a child
9. Being a fit parent
10. Suing and being sued
11. Receiving property
12. Holding property
13. Making a gift
14. Having a guardian, committees or trustee appointed
15. Being committed to a mental institution
16. Being discharged from a mental institution
17. Being paroled or put upon probation
18. Being responsible for a tortious civil wrong
19. Being fit for military service
20. Being subject to discharge from military service
21. Operating a vehicle
22. Giving a valid consent
23. Giving a binding release or waiver

¹ Read at the 117th annual meeting of the American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

² Respectively, 270 Commonwealth Ave., Boston, Mass., and 124 Pond St., Nahant, Mass.

24. Voting
25. Being a witness (testimonial capacity)
26. Being a judge or juror
27. Acting in a professional capacity—as a lawyer, teacher, physician
28. Acting in a public representative capacity—as a governor, legislator
29. Acting in a fiduciary capacity—as a trustee, executor
30. Managing or participating in business—as a director, stockholder
31. Receiving compensation for inability to work as a result of an injury

Although only a few of these areas, *e.g.*, criminal responsibility and testamentary capacity, have become well known and familiar to most psychiatrists, a perusal of

the list will reveal the significance of just about every area. For example, it may now be time to give more thought to the mental capacity involved in voting or in driving an automobile.

THE LEGAL TESTS

Legal tests exist to differentiate the competent individual from the incompetent individual. These tests specify and define with varying degrees of precision that state of mind which renders one fit or unfit for each legal activity. Table 2 defines some representative tests for some common and important capacities. It should be emphasized that these are representative tests so that some variation among the jurisdic-

TABLE 2
Representative Tests of Some Common Capacities

CAPACITY	DEFINITION OF TEST
1. Making a will	Knows what property he has and those relatives who would be his natural objects of bounty and understands the nature of the disposition of the property he has made and does not suffer from a delusion which influenced the disposition of the property.
2. Making a contract	Possesses sufficient mind or reason to enable him to comprehend the nature, terms and effects of the particular transaction in which he is engaged.
3. Being not responsible for a criminal act, <i>i.e.</i> , to be excused	Unable to distinguish between right and wrong or incapable of resisting an impulse which led to the commission of a crime.
4. Standing trial	Possesses sufficient present ability to consult with his attorney with a reasonable degree of rational understanding and has a rational understanding of the nature of the proceedings against him.
5. Being married	Able to understand the nature of the marriage relation and the duties and obligations involved.
6. Being divorced	Suffering from incurable insanity as evidenced by medical testimony and 3 years of continuous institutionalization.
7. Having a guardian or committee appointed	Not necessarily insane but by reason of old age, disease or weakness of mind unable to manage his property unassisted and by reason thereof likely to be deceived by some artful person.
8. Being committed to an institution	Rendered by mental illness so deficient in judgment or emotional control that he is in danger of causing physical harm to himself or to others or the wanton destruction of valuable property.
9. Being discharged from an institution	Recovered his sanity and will not in the reasonable future be dangerous to himself or others.
10. Being a witness	Able to understand the moral obligation to speak the truth and the nature of the question asked, and able to form and communicate an intelligent answer.
11. Receiving compensation	Unable to engage in any substantially gainful activity by reason of a medically determinable mental impairment which can be expected to be of long continued and indefinite duration.

tions can be expected.

The test for each capacity is adapted to the particular legal action involved. For example, in order to write a will, one must know the nature and extent of the property of which he is disposing and the natural objects of his bounty. In an imaginary lineup of all persons, from mentally sick to well, this test could draw the line to separate those lacking testamentary capacity from those possessing testamentary capacity.

Table 2 also clearly indicates that the law has developed, over the years, an individual approach to each capacity. Each test is different. This individual approach of the law can be further demonstrated in specific cases which raise the question of more than one capacity in a single individual. Perhaps the following case example will illustrate this point.

In *State v. Elsea* (15), a recent Missouri case, a probate judge ordered a sheriff to take Elsea, a committed person, to a mental hospital. But, Elsea shot the sheriff in the leg and was brought to trial for assault. Can a person be in need of commitment and yet be responsible for a criminal act? The appellate court decided that although Elsea, the defendant, may well have been a paranoid schizophrenic in need of commitment, he could, nevertheless, be considered responsible for his criminal actions. Therefore, in a legal sense, Elsea was found sane for purposes of his criminal responsibility, but insane for purposes of his civil commitment to a mental hospital.

There are many similar cases which illustrate this individual approach of the law to each specific capacity.

THE USE OF PSYCHIATRY

In general, the tests seemed to emphasize various aspects of personality make-up. Many of the tests stress the cognitive functions of personality—like the contract test (No. 2, Table 2)—“to comprehend the nature of the transaction.” Some of the tests use the behavioral or performance aspects, for example, “to be unable unassisted to manage his property” (No. 7, Table 2). A few tests emphasize what might be called superego or ego control functioning, *e.g.*, “so deficient in judgment or emotional control that he is in danger of causing physical

harm” (No. 8, Table 2). An occasional test refers to some specific mental symptom, *e.g.*, “a delusion which influenced the disposition of the property” (No. 1, Table 2). Other tests rely on the existence of mental illness in general, *e.g.*, “suffering from incurable insanity” (No. 6, Table 2).

No test refers specifically to unconscious forces of the personality, nor depends on case history exclusively. On the other hand, the definitions never rule out such factors from consideration. Therefore, the testimony of the psychiatrist can encompass the totality of psychiatric knowledge. In addition, the psychiatrist can talk in terms of the legal definitions or he can refuse to do so if he prefers to express himself in psychiatric terms. Thus, the psychiatrist really has the widest latitude in giving his opinions.

The tests establish no relation between any legal capacity and any psychiatric category or diagnosis. As a matter of fact, it is frequently implied that psychosis is not to be equated with any specific incompetency. An interesting case from this point of view is the case of *In Re Stephani* (16).

Stephani had been in a mental hospital for the last 32 years of his life. While in the hospital, he wrote a will. Stephani died, and his will was then attacked on the grounds that he had been incompetent at the time of writing the will. A psychiatrist testified that Stephani lacked testamentary capacity because Stephani had been psychotic. However, when the psychiatrist was informed of the legal test and definition for testamentary capacity, he changed his testimony and concluded that Stephani, even though psychotic, did have the requisite capacity to write a will. When the case was appealed, the appellate court upheld the capacity of a psychotic person to write a valid will.

However, it did seem to us in reading other cases that many psychiatrists, attorneys, and judges, while denying in words the equation of psychosis with incapacity, were, in reality, making this assumption.

On the other hand, no neurosis or disease of character or personality was definitely excluded from consideration by any of the tests. A recent case is important from this point of view.

In *Blocker v. U. S.* (2), a criminal case in the District of Columbia, 2 psychiatrists testified

that a sociopathic personality disturbance was not considered to be a mental disease or defect. In their opinion, therefore, there was no mental disease to excuse Blocker from responsibility for his crime. Blocker was found guilty of murder. Less than a month later in the same court, the Assistant Superintendent of St. Elizabeth's Hospital testified that he and the superintendent were agreed that some people suffering from sociopathic personality disturbance should be "labeled as diseased, as mentally ill, mentally sick, suffering from mental disease." This occurred in the case of *U. S. v. Leach* (2), and Leach was excused from criminal responsibility. Blocker's attorneys immediately asked for and were granted, a new trial on the basis of the findings in *U. S. v. Leach*.

It now begins to look as though sociopathic personality disorder may hereafter be considered as a mental disease so that some sociopaths could be excused from responsibility for their crimes. This finding is in contradiction to the American Law Institute's Model Penal Code and will certainly be important in the administration of criminal justice in the District of Columbia (10, 19).

THE LEGAL DETERMINATION OF CAPACITY

The legal determination of competency is thus made only after considering many different factors. It must be remembered that state of mind is only one of these many factors, and that the testimony of a psychiatrist, in turn, is only one bit of evidence pertaining to the state of mind. In the decision-making process the law may consider, in addition, testimony by ordinary people who are far from expert on things psychiatric. In addition, this lay testimony may be considered on a par with testimony by the most expert psychiatrist. But all the testimony and evidence must be considered within the framework of the legal policy established through the ages to bear on each individual case. In addition, the judge or jury brings to this determination present day community standards and norms. Many decisions in the area of criminal law, for example, reflect the age old social policy of punishing the wrong-doer, as was the case in *State v. Elsea*. Similarly, many decisions regarding the validity of wills reflect the continuing social need to protect the individual's right to dispose of his property,

thus strengthening the continuity and stability of society, as was the case in *Re Stephani*. Such considerations may far outweigh psychiatric testimony.

While up to now we have considered all the legal capacities together for the purpose of discovering generalities, it should be noted that attorneys recognize that the question of mental incapacity arises for 3 distinct legal purposes. These are to determine: 1. Whether or not action can be taken in the name of the person because of mental incapacity, *e.g.*, whether he can be involuntarily committed to a mental hospital; 2. Whether or not the person can be spared the consequences of an act because of mental incapacity; or 3. Whether or not the person can be prevented from acting, or have his prior actions invalidated, because of mental incapacity, *e.g.*, whether he can be denied a license to marry or have his marital contract annulled. Certainly, these are weighty decisions of grave import to the individual as well as to society.

Thus, it can be seen that the determination of an individual's capacity can be used as a sword with which to attack him or as a shield with which to protect him. However, it is interesting to note that the law today generally does not recognize mental incompetency as a defense or as an attack in the areas of holding property, suing and being sued, and of being responsible for a civil wrong doing or tort.

CONCLUSIONS

An overall view of the question of mental capacity is presented. The definitions seem to be stating the degree of irrationality or abnormality necessary to invalidate deeds or to require action by society. Each case was decided on a completely individual basis. Furthermore, the law usually looked upon the determination of each specific capacity as an entity unto itself, and thus essentially prevented the development of relations between the various capacities. It seemed to us that further work is indicated along the lines of developing scales to evaluate the degree of illness, as well as the effects of illness upon the performance of life's daily tasks, including the common legal definitions. It is hoped that the reader gained some appreciation of the

complexities and difficulties involved in these human interpersonal problems of mental capacity.

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DISCUSSION

JAMES L. MCCARTNEY, M.D. (Garden City, N. Y.).—This interesting paper is a further discussion on the age long problem which has caused many battles of the experts. I entirely agree with the authors that there should be a clarification of the subject, as the legal tests that are now used in the courts do not ade-

quately cover the subject. As we pointed out¹ a couple of years ago, there is considerable difference between the method used in the Armed Services and that used in the civilian courts. The New York State Legislature this year has taken some action to correct the situation, and, as I pointed out recently,² the psychiatrist may now have some freedom of thought in formulating an opinion as to the capacity or incapacity of an individual. The diagnosis of a person being psychotic or non-psychotic cannot be taken as conclusive evidence of a person's capacity to use rational judgment.

In the 1961 session of the New York State Legislature, the New York State Department of Mental Hygiene, with the cooperation of the New York State Bar Association, introduced legislation attempting to clarify mental capacity. Two bills were designed to modernize the penal law and code of criminal procedure and emphasize that the mental illness of the defendant should be stated as specifically as scientific findings will permit, and it should be shown how this illness could have influenced the defendant's actions. If these amendments go into effect, they will provide that a person will not be liable for his criminal act if as "a result of mental disease or defect he lacks substantial capacity to know or to appreciate the wrongfulness of his conduct; or to conform his conduct to the requirements of law"; and psychiatrists testifying in criminal cases will be permitted to give complete reports on their findings and whatever explanation they deem necessary to illuminate fully the psychiatric aspects of the case. A psychiatrist who has examined a defendant will be allowed to give in court a complete report of his findings.

The proposed New York legislation would do away with the McNaghten Rule, which has been used for well over 100 years, and which is a rule of whether a defendant can tell right from wrong. This new legislation was the result of 3 years of study by a committee of psychiatrists and lawyers. Time will only tell whether other states will adopt such amendments, and whether before New York State. As it is, the 1961 Assembly passed the amendments without debate, but they were lost in the last minute crush of the legislation in the Senate.

¹ McCartney, James L., M.D., and McCartney, James R., M.D.: *Psychiatric Testimony in Military and Civilian Courts*. *J. Soc. Ther.*, Vol. 5, No. 3 (3rd Quart.) 1959.

² McCartney, James L., M.D.: *New York J. Med.*, 60 : 3621, Nov. 1960.

TUTORIAL : A USEFUL WAY TO TEACH PSYCHIATRY TO SENIOR MEDICAL STUDENTS¹

PETER E. SIFNEOS, M.D.²

This paper reviews 10 years of experience with intensive individual "tutorial," a method used to teach psychiatry to approximately 20% of the senior class of Harvard Medical students.

Some students choose to take their psychiatry course at the Massachusetts General Hospital because, viewing themselves as future internists, surgeons, or psychiatrists, they recognize the importance of emotional factors in medical disease, and believe they should be acquainted with the role that psychiatry plays in a general, rather than in a mental hospital. They are aware of the fact that a large part of their future medical practice will be devoted to the assessment of emotional problems and they want to learn how to go about evaluating their patients. Our course, therefore, attempts to satisfy this need.

But before describing the nature of tutorial as a teaching device, I should like to outline briefly our one-month course in psychiatry at this Hospital.

THE PSYCHIATRY COURSE

We have organized the fourth year course mainly to expose the students to as many patients as possible in order to confront them, as J. Nemiab(1) puts it, "with psychological phenomena in such a way that they will be forced to look at them, that they will be aroused to curiosity about them, and that they will accept them as worthy of study and see them as providing reasonable evidence for the theories devised to explain them." We also agree with H. Miles, S. Cobb, and H. Shands(2) that "participation of the student in interviews with patients, along with detailed discussions of the material with an instructor, is the best way to learn psychiatry."

First of all, the student must become acquainted with the role played by emotions in medical illness. To do this, we attempt to expose him to patients with diseases where psychological factors are closely related to physiological changes, and to help him understand that the only way to assist such patients is through the cooperation of the internist and the psychiatrist.

This cooperation, however, should not be limited to the so-called psychosomatic diseases, but should include all medical illnesses. In each case the student should assess the individual patient's reaction to his illness. This reaction often involves such matters as his separation from his family, his home, and his work; apprehension about the hospital; anxiety about his physical condition, and his fear of the possibility of his own death. Although these obvious factors are often overlooked, it should be pointed out to the students that they are very significant, equal in importance in fact, to the pathological physiology and biochemistry underlying the patient's medical disease.

A clear picture, thus, must be obtained of the kinds of situations in which the psychiatrist can be of use as a consultant to his medical and surgical colleagues, and of the cases that require referral for psychiatric treatment.

Second, our medical student must learn to assess the character not only of each neurotic patient, but also of the so-called normal, healthy individual. To achieve this it is necessary that every patient be understood on an individual basis rather than be fitted into a specific diagnostic category which is based on no pathological findings, but rather on descriptive clinical impressions. Learning to take a good longitudinal history of the emotional development, paying special attention to the patient's interpersonal relations and his ability to deal with reality, in order to arrive at a meaningful understanding of the problems presented, becomes of great importance. A good way to evaluate the patient's ability to relate inter-

¹ Read at the 117th annual meeting of The American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

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personally is to study how he relates to the student during the interview. Special attention should be paid to this interaction. Observation of the various reactions of different individuals to their emotional drives and the mechanisms they utilize to handle them is of great use in the understanding of their personalities. When the same patient is interviewed by the supervisor, the student will be able to compare the two interviews and observe the reactions to another interviewer. After all this, the student is helped to arrive at a brief dynamic formulation of the psychological difficulties and to recommend the best disposition or treatment. To make a recommendation about treatment the student should learn to differentiate between patients who need intensive psychotherapy and those who can benefit only from long-term supportive care.

Third, not only must special attention be paid to the patient's problems, but also to the contentments, satisfactions, positive assets, and strengths of character, the assessment of which will convince the student that mental health and mental illness differ only in degree and are parts of a continuum of the same dynamic processes.

The majority of patients used for teaching purposes come from our psychiatric ward, and psychiatric clinic. In addition, a small number of individuals presenting acute psychiatric emergencies are seen in the emergency and overnight wards of the Hospital.

On the closed ward, under the guidance of the chief psychiatric resident, the student is required to write a formal analysis of the mental status of patients with toxic psychoses, hypertensive or arteriosclerotic brain syndromes, acute or chronic alcoholism, brain tumors, toxic delirium, and other mental disturbances which complicate the medical diseases.

In the psychiatric ward every student is assigned to one patient for whose care he is responsible throughout his month's stay, and whom he sees at first for evaluation and then in psychotherapy. The frequency of the interviews varies, but usually ranges from 2-3 times a week. Occasionally more patients are assigned to an unusually gifted and skillful student.

We try to select patients who are suffering from mild neuroses or emotional prob-

lems which are complicating their medical illness and who might benefit from psychotherapy of one month's duration. The interview material, as mentioned before, is afterward discussed at length in the tutorial.

In contrast with their intensive contact with one individual, the student in the psychiatric clinic evaluates 2 or more new patients every week, and after an hour's interview he presents the case to his supervisor at a teaching conference. With only 2 students attending each 2-hour conference, ample time is provided for discussion and instruction.

The other teaching exercises, in addition to the formal psychiatry staff conference and the regular visit rounds, include a group meeting with the coordinator of the fourth year psychiatry course, which covers various topics of general interest, and the discussion of important papers from the psychiatric literature. We make an attempt, therefore, to give our students a comprehensive picture of psychiatry. Besides all this, a special 2-hour session with a member of the psychiatry research department gives the students the opportunity to discuss the methodological problems encountered in psychiatric research.

THE TUTORIAL

The major portion of our teaching, however, is done by the tutor, who is a member of the senior staff. The tutor is the overall supervisor of one student every month. He and the student meet for at least 3 tutorial sessions per week, of one hour each, to examine and discuss the material derived from the student's interviews with his patient.

We have a small group of tutors who have been teaching for several years. They meet on occasions with the coordinator of the course, individually or as a group, in order to arrive at a consensus about the overall principles of the psychiatry course. Every tutor, however, is free to teach, supervise, and implement our teaching goals in his own individual, even idiosyncratic way.

The nature of the tutorial relationship is difficult to describe because it varies a great deal. It is essential, however, that the tutor try to create a conducive atmosphere before

teaching can take place, and this depends upon the prompt establishment of a positive tutor-student relationship. This tutorial relationship is a dynamic one, involving transference and counter-transference that must be recognized by the tutor, handled delicately and subtly, and resolved successfully by the end of the month. The tutor, therefore, is faced with a short-term dynamic relationship and the specific goal of facilitating instruction.

E. Zetzel(3), in her discussion of social casework supervision emphasizes: "The dividing line, admittedly, indefinite and difficult to delineate, for the supervisor to draw, in his attitude toward the emotional reactions of his students, is between what is conscious and what is genuinely unconscious." She concludes, "The supervisor will, in short, understand the complex factors he is facing but will utilize this knowledge to create for the student, who must in the process of learning, recapitulate to a greater or less extent some of his earlier emotional problems, a framework of security in which to develop and learn." These observations are certainly true as far as the tutorial relationship is concerned.

The transference counter-transference in the tutorial also has implications similar to those encountered in dynamic psychotherapy. The author(4) has emphasized the advantages of utilizing transference feelings. A positive transference is the main tool of psychotherapy of psychologically fairly healthy young people, and the therapist who utilizes it skillfully usually succeeds in helping them. In follow-up interviews these individuals described their psychotherapy as a "new learning experience." They said they had learned to look into themselves, or were able to solve previously insoluble emotional conflicts. There is a close parallel, therefore, between short-term dynamic psychotherapy and tutorial, with learning occurring in both situations.

Tutorial also helps the student become somewhat aware of his own emotional reactions, the recognition of which contributes to his greater tolerance and understanding of his patient. Some of the students' apprehensions can be dealt with in an informal way, but the tutor should be aware that this could create a delicate situation where no

clear-cut lines can be drawn. As long as the student does his own self-examination and benefits from it, this is all for the good; but when he begins to expect the tutor to do it for him, difficulties are liable to arise. The tutor cannot proceed with the teaching and at the same time get involved with the emotional problems of individual students. Tutorial should not be allowed to turn into psychotherapy.

For example, if a student begins to discuss his own emotional difficulties, the tutor may listen for a while, but should not encourage him to continue. Instead, he should interrupt if necessary and change the subject of conversation. This same principle is used in short-term dynamic psychotherapy, when the therapist actively, at times, avoids certain deep-seated conflicts involving the patient's character in order to concentrate on the patient's learning to handle the more superficial emotional difficulties.

Sometimes the psychiatry course may be hazardous and create anxiety, which can give rise to an emotional crisis(5) in the student, who then feels a need to discuss his personal problems. At such a time he is encouraged, and even urged, to seek the assistance of the psychiatrist who is available to the students at the Medical School. Formal psychotherapy is thus kept out of the tutorial session.

The students who are most satisfied and are most successful in our course are those who become inspired by their tutors, assimilate their ideas, adopt some of their interviewing techniques and utilize them in their patient evaluations or psychotherapy interviews. They learn by this process of identification.

The tutors, as is of course to be expected, are gratified by the progress of some students, and have difficulties with others; yet one of the most intriguing ways in which the tutorial relationship can become a good teaching device depends on the way the tutor reacts to each individual student. Students who express healthy skepticism, ask challenging questions, and even level intelligent criticism at the tutor, stimulate the tutors to work harder, do more reading, review their own work critically, assess emotional problems of patients more flexibly, and finally augment their own fund

of knowledge, rather than fall back on familiar clichés, attitudes, and routines.

EVALUATION OF STUDENTS

In rating the students in the course, we use standardized forms that were originated by Dr. G. Quarton, my predecessor as co-ordinator of the fourth year psychiatry course at the Massachusetts General Hospital. The tutor rates the student's performance on the following 6 points: overall effort; cooperation with the staff; capability to relate to patients and understand their problems; skill in interviewing; ability to organize and formulate his own case, and present in an original manner his thoughts and his material; and, finally, his knowledge of the psychiatric literature.

Four other teachers, namely, the psychiatry clinic supervisor, the ward director, the co-ordinator of fourth year teaching, and the chief resident, all of whom supervise the student's work during the month also rate the students. These multiple opinions about performance and character offer a way of pooling the information, and give a better overall picture of the student. These standardized rating forms can be used in the future for letters of recommendation, residency applications, and even research on the efficiency of teacher evaluation of students.

STUDENT EVALUATION OF TEACHING

One of the important factors that helped improve our fourth year psychiatry teaching at this hospital has been the student's rating of his teachers and of the course. In the last 3 years, 49 of 76 students rated tutorial and their experience in the psychiatry clinic as the two "most satisfactory teaching exercises." In addition, they made the following favorable comments about tutorial:

1. The tutor was an informative person who, within tutorial, was able to increase my interest in the field of psychiatry and in some of the specific areas in which he was interested.
2. The tutor stimulated my interest. Supervision by a senior staff member is very helpful.
3. Tutorial is an ideal way to discuss problems concerning the long-term patients.
4. One is much more relaxed in a small group discussion.
5. I feel that every interview should be

discussed with a tutor. A student gets out of this psychiatry course what his tutor puts into it.

6. It is helpful to have the interview gone over in a thorough fashion.

7. Tutorial is an excellent opportunity to discuss carefully the problems of our patients.

8. Tutorial involves the student closely in a learning experience.

9. Tutorial helps to emphasize the principles of the therapeutic relationship and the manner in which the student can aid his patient.

10. Many ideas which previously seemed quite equivocal to me became clarified during the month, through my tutor's help.

11. What I enjoyed most was the detailed and complete presentation of my case. It was then that I learned the most.

12. The tutor must set up a program adapted to the student's particular needs. A great deal depends upon that. This is difficult, but in my case it worked out satisfactorily.

The unfavorable comments were few:

1. My tutor did not put into the session as much as I did.
2. Tutorial sessions have not been sufficiently directed.
3. Tutorials should be left free for whatever the student wants, not what the tutor wants.
4. Even if the tutor is a good instructor, it does not help when you spend 2 hours waiting for him for every hour you are able to see him.

Tutorial is an expensive way to teach as far as time is concerned. We believe, however, that this cost is worthwhile because the tutor, through his teaching relationship with the student, is probably better qualified than other teachers in the medical school to assess the student's character, his strengths, weaknesses, capabilities, and finally, his overall potentialities, and to assist him to become a better person and a good doctor of medicine.

SUMMARY

The psychiatry course as given to senior Harvard Medical School students at the Massachusetts General Hospital has been briefly described, with special emphasis placed on the use of intensive individual tutorial.

The tutor-student relationship is dynamic. It has education as its main goal and

involves a transference counter-transference that must be recognized early by the tutor, handled with subtlety, and resolved successfully by the end of one month in order to facilitate learning. It also offers both the tutor and the student a unique opportunity for learning. The tutor must be careful, however, that tutorial should not devolve into psychotherapy.

Thus, from our staff experience and student ratings, tutorial is considered a most useful way to teach psychiatry to senior medical students.

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Ramon y Cajal in his library at the Instituto Cajal, 1928.

DON SANTIAGO RAMON Y CAJAL REMINISCENCES ABOUT A PERSONALITY

E. HORNE CRAIGIE, PH.D.¹

On a chill January day in 1927 I walked along the Paseo de Atocha in Madrid, still thrilled by the excitement of arriving in so remotely romantic a country as Spain and even more by the prospect of meeting and working with the greatest neuroanatomist of his day; the real founder of the neuron doctrine (expounded and popularized by Waldeyer and His); the author of nearly three hundred scientific publications, including the great, thousand-page *Histologie du Systeme Nerveux* based practically entirely on his own researches, that is still the neuroanatomist's source-book and bible; the Nobel laureate in Physiology and Medicine of 1906.

I found the address—what appeared to be an old residence attached obliquely to the side of a museum building—and entered the wide, arched doorway characteristic of older Spanish houses. Within, a wide stone stair led up from the flagstoned entrance hall to the second floor, and there I was faced by a heavy closed door, on which a large oval plate of blue and white enamel bore the simple but awe-inspiring inscription, "Dr. Cajal."

I was already sufficiently acquainted with Spanish custom to know that this was the surname of the great man's mother before marriage and I wondered why he used it here without his patronymic before it—a question that I never did have answered.

In response to my ring at the bell, the door was opened by a one-armed concierge, whom I was to come to know as Tomás García, a general factotum who had served the master from the foundation of his Institute in Madrid, a kindly, friendly man without whose aid nobody, not even the Director of the Institute himself, could pass in through that door. He spoke only Spanish, and listened impassively to my halting explanations of who I was and why I was there. Don Santiago was not in. He might be there about seven in the evening.

Actually, he usually went to the laboratory for an hour or two late in the afternoon and I had to make two more visits before finding him.

There, in the hallway inside that heavy door, he came out to receive me—a short, thickset figure wearing a large, faded overcoat, the head somewhat sunk between the shoulders, and from the thick, bushy, grey whiskers there burst a torrent of French so voluble that I was struck almost dumb. In all the months I spent in his laboratory, I think he never addressed me in any other language. His assistant, Dr. Fernando de Castro, also used French with me as a rule, though others spoke in Spanish.

The volubility of most of the people around me in the laboratory, and of Ramón y Cajal himself, never ceased to impress me. He was by that time almost 75 years old and very deaf. My intercourse with him usually involved my asking him some question or showing him my preparations, whereupon a vigorous monologue would commence. It was always interesting, impressive, even exciting, but if I wished to ask another question, that had to wait until the next occasion, for there would be no chance to introduce it.

Everybody hung upon the master's words. The members of a group conversing seemed to try to shout each other down, but when don Santiago was present all other loquacity ceased while he talked. Never has it been my fate to meet another man who dominated every word, act, or thought of those about him as did Ramón y Cajal—don Santiago, as he was universally called. It was always, "don Santiago says . . .," "in don Santiago's opinion . . .," "don Santiago believes . . .," and so forth. Nobody had any sign of ideas other than those of don Santiago. Only the concierge, Tomás, would ever have thought of disagreeing with him.

This was the man who had not merely become a world leader in his field but had risen to that position against the determined opposition of his academic superiors, with

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not even the simplest and most fundamental laboratory facilities available as a starting place, and in a country where no work of the kind had ever been done before. Moreover, he had never stopped. Even when on holiday, his mind was always in his laboratory, and, though he now spent only a few hours daily at the Institute, he also had a laboratory in his own house. This was the man who had developed and improved the method of the great Golgi, using it to establish the neuron concept beyond dispute, even contrary to Golgi's own beliefs, and had later elaborated the reduced-silver techniques that for long have been known elsewhere as the Cajal methods. By many techniques, but particularly by those of silver impregnation, he finally refuted the reticular theory of nervous structure upheld by such eminent authorities as Nissl, Bethe and others.

And in all the decades of feverish work and scientific success, he had never lost his appreciation of beauty. How many busy histologists, excited by a great discovery, such as one confirming the non-continuity of neurons at the synapse, would be moved to write such lines as these?

The garden of neurology holds out to the investigator captivating spectacles and incomparable artistic emotions. In it my aesthetic instincts found full satisfaction at last. Like the entomologist in pursuit of brightly coloured butterflies, my attention hunted, in the flower garden of the grey matter, cells with delicate and elegant forms, the mysterious butterflies of the soul, the beating of whose wings may some day—who knows?—clarify the secret of mental life.

In some way or other, the simple admiration of the cellular form was one of my greatest delights. For even from the aesthetic point of view the nervous tissue contains the most charming attractions . . .

As I sat at the desk that was assigned to me, my back was near a small stove of the type called in Canada a Quebec heater. In this the concierge built a fire of sticks each morning, allowing it to burn out and leaving the laboratory unheated for the rest of the day. Hence it was not surprising that the Director always kept on his overcoat during his afternoon visits. I do not clearly recall ever seeing him without it.

He would come in and take his place in a high-backed chair at the head of a long table in the library, which adjoined the laboratory, his back to the door of his own small private laboratory. In the library he would attend to his day's business and receive those who wished to talk with him. Then he would come to see what was being done by those of us working in the laboratory, all except myself local men who came in irregularly; or he would issue instructions to the two girl technicians, or criticize their extravagance, and everybody in the building would crowd around so that no word of his should be lost.

Not always were his talks confined to the scientific work in hand. From time to time he would launch upon disquisitions such as he indulged in in some of his books, comments on social problems, art, literature, hypnotism—all sorts of subjects. One recalled that, although his great work was the elucidation of the structure of the central nervous organs, his important contributions had extended over much wider fields, particularly in pathology, and that he had even experimented successfully in the therapeutic use of hypnotic techniques.

From his boyhood in Huesca, Cajal had been keenly and actively interested in photography. When in his twenties, he had even undertaken the manufacture of dry plates, possibly the first actually made in Spain, and recently he had worked out a complicated method for making photomicrographs of nerve elements extending distances in the thickness of a section. Also he had experimented with colour photography and, as early as 1912, had published the first book in the Spanish language on the principles and practice of producing photographs in colour. More than once he brought some of his photographs to show to his Canadian visitor, presenting a copy of his book and demonstrating some quite remarkable products of his skill. When the English translation of his autobiography was being prepared,² he promised to send original photographs to illustrate it after publi-

² *Recollections of My Life* by Santiago Ramón y Cajal. Translated by E. Horne Craigie, Ph.D., published as Vol. 8 (638 pp.) of the *Memoirs of the Philosophical Society*. Philadelphia, Pa., 1937.

cation was arranged, and it was a matter of deep regret that, his death having intervened, this expectation was not fulfilled.

Not infrequently the master's talks concerned the accomplishments of various former or present disciples, such as Achúcarro, who had died some time before, Tello, who succeeded Cajal in Madrid, Lorente de Nó, then in Germany, Penfield, a recent American visitor, and others. Though those just mentioned were all approved, comments on some others were occasionally less laudatory. There was noticeable avoidance of reference to Rio-Hortega, who now had an independent laboratory in Madrid, and there was bitter resentment of the use of Ranson's name in connection with a slight modification of the pyridin-silver technique, which Cajal considered his own. One day Dr. Castro showed the master a new paper defending the long-since discredited view that nerve elements are continuous at the synapse, which met with derisive laughter. Concerning another former assistant Cajal wrote later, "he was one of my most deplorable mistakes."

Remarks about medical practitioners were sometimes scathing. The Institute had an arrangement with the hospital for obtaining human histological material while it was fresh, and one day the remains of a child that had died at birth were brought into the laboratory. With the exclamation, "What barbarity!", the master glanced and turned away.

At the time of Cajal's retirement from his university chair* at the age of 70, an imposing monument was erected in one of Madrid's principal parks, in which he is represented reclining in the garb of a classical Greek philosopher. I was told that he always avoided passing it. At the same time, a white marble statue showing him

life-size, seated, in academic gown, was set up in the most prominent place in the Medical School of Zaragoza, and a tablet was placed on the outside of the house where he was born in the remote mountain village of Petilla. A second tablet was installed there at the time of his death.

Visiting Petilla in 1960, I found that don Santiago Ramón y Cajal was the great hero of the simple villagers and mention of his name was enough to unlock their eager hospitality. The only person in the village who claimed once to have seen him was immensely proud of the fact. His nephew, don Pedro Ramón y Vinós, now Professor of Pathology in Zaragoza, was unable to help me in my pilgrimage but told me of his own father, don Pedro Ramón y Cajal, who was don Santiago's younger brother. These brothers resembled each other so closely that friends meeting one in the street often mistook him for the other.

In Jaca, the anecdotes told by Cajal in his autobiography were essentially confirmed by the Rector of the Esculapian School, where the surviving reputation of the famous pupil is that of being "very rebellious." The Rector was most anxious that I should see a letter written in 1922 and now preserved in Zaragoza. Perhaps it would be fair to all concerned to close this note by quoting the main paragraph, in translation.

"Too much importance should not be given to the criticisms printed in my Autobiography with regard to the Escuela Pia de Jaca. No teaching institution is free from including temporarily some ill-natured and excessively strict instructor. In addition to which my diabolical escapades as an ungovernable small boy justify any disciplinary measures. I am proud today, in every way, to have been a pupil of the Escuelas Pias."

CLINICAL NOTES

(The Clinical Notes report the findings of the authors and do not necessarily represent the opinions of the Journal.)

A CARD SORTING TEST HELPFUL IN ESTABLISHING PROGNOSIS

A. HOFFER, M.D.,¹ AND H. OSMOND, M.D.²

In earlier papers, Hoffer and Osmond (2, 3) described a card sorting test (the HOD for short) which differentiates schizophrenics from other psychiatric patients. Schizophrenics scored much the same as patients with organic or toxic psychosis such as intoxications, brain syndromes and deliria. Our test gives a rough quantitative description of the nature of the perceptual disturbances which patients experience. We also found that unknown chemicals, discovered in the urine of schizophrenic patients by Irvine (4), and Hoffer and Mahon (1), were found more often in the urine of those who had high HOD scores than in those who had low scores. Table 1 shows scores from patients reported previously with an additional 26 patients.

TABLE 1
Showing Some HOD Scores (Means) in Groups of Subjects With and Without the "Unknown Substances"

GROUP	N	PS	PER. S.	T.S.
All non-schizophrenics	121	1.5	3.4	24.4
All subjects without "US"	50	1.2	2.6	20.0
All subjects without "US"				
1961 series	11	2.0	4.6	29.0
All subjects with "US"	37	3.7	12.4	59.0
All subjects with "US"				
1961 series	15	4.0	12.0	57.0
All schizophrenics	158	4.0	11.9	57.0

PS — paranoid score
PER. S. — perceptual score
T.S. — total score

The mean scores of these 61 patients without the unknown substance do not differ much from those of an earlier series of

121 nonschizophrenic patients. They also closely resemble scores from equivalent groups drawn from a total tested sample of 1500 patients.

The mean scores of 2 groups of patients with the unknown substance in their urine resemble those of 158 schizophrenics and the much larger number tested since.

In the earlier paper we noted that 10 patients who required readmission to hospital had much higher HOD scores just before discharge than 55 patients who did not return. It seemed that these predischarge scores might be helpful in prognosis. We have now expanded the series to include 116 patients covering a period of one year after discharge for the first patients tested. We selected all schizophrenics, depressions and anxiety neuroses who received treatment at the University Hospital at Saskatoon and for whom HOD scores were available immediately before discharge. Their records were examined and readmission to any hospital noted. Table 2 shows the results.

TABLE 2
Mean HOD Discharge Scores as Related to Readmission and Diagnosis

GROUP	STATUS	N	D.S.	SCORES		
				PER. S.	P.S.	T.S.
Schiz.	Not					
	Read.	34	4.7	3.4	1.3	26
Anxiety and Depressions	Not	13	6.9	9.7	4.5	58
	Read.	61	3.4	0.9	-0.7	13
	Read.	8	11	6	4	43

D.S. — Depression score
PER.S. — Perceptual score
P.S. — Paranoid score
T.S. — Total score

In addition to the scores used in earlier

¹ Director, Psychiatric Research, Dept. of Public Health, located at University Hospital, Saskatoon, Saskatchewan.

² Onet Cottage, Godalming, Surrey, England.

papers, we have developed a depression score (DS) obtained by adding up the cards placed in the true box with the following numbers, 20, 31, 49, 53, 56, 77, 78, 102, 103, 104, 105, 106, 107, 111, 112, 113, 114, and 115. The maximum score is 18. All patients were tested by nurses who did not exercise any selection. The difference between the scores when discharged of those who were readmitted and those who were not is so great that we have not included statistical items such as age, sex, which might have been interesting in other circumstances. Very few patients were under age 21. All patients received similar treatments. Readmissions were arranged by doctors who had not been told about the predischARGE HOD scores and had no access to these records.

The total score before discharge seems to be prognostic. When this score is 40 or less, about 1 out of 10 were readmitted. When the total score was 41 or more, 12 out of 21 were readmitted. Chi square for one DF is 25. In other words, when the total score is less than 40 the probability of readmission within 6 months after discharge is 0.6. When the total score is greater than 40 the probability of readmission within 6 months after discharge is 0.1. Other hospitals with different diagnostic criteria may

obtain different prognostic indices.

The HOD scores show the number of symptoms suffered by the patient, so high scorers are clearly sicker than low scorers. A high score just before discharge, therefore, shows that such a patient has either improved little or in spite of some improvement is still ill. It is not surprising that these persons are more likely to return to hospital soon. Perhaps these high scorers should stay longer in hospital or receive more help when they return to their homes. At least it should be easier to decide on the best course when such patients can be identified with a simple, quick and easily administered test.

CONCLUSION

High HOD scores in patients awaiting discharge suggest that they are not as well as patients with low scores and so less likely to stay out of hospital.

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USE OF MEPHENOXALONE IN BEHAVIORAL PROBLEMS

IRVIN A. KRAFT, M.D.¹

This is a report* of a 2½-year clinical study to evaluate a new psychotherapeutic agent, mephenoxalone² (Tranpoise®), in a varied sampling of children attending a child guidance clinic. Since our objective was to define the clinical efficacy and optimum dosage of the drug, no attempts were made to introduce a control into the study. We have attempted to evaluate this agent in various syndromes in children emphasizing those with the EEG pattern of 14 and 6 spikes per second.

Mephenoxalone (identified in some previous papers as methoxydone) is one of a series of oxazolidinones and is a centrally acting muscle relaxant that exerts its effect through a suppression of polysynaptic reflexes. It has also been found useful in the treatment of patients with marked tension, anxiety and agitation with depression.³

A series of 31 children with various behavioral problems were selected for treatment with mephenoxalone. Twenty of the 31 children exhibited abnormal behavior characterized by hyperactivity, neurotic tendencies, and school phobias. Of this group, 15 showed a consistent brain wave

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² Mephenoxalone (Tranpoise®), Whittier Laboratories, Inc., Evanston, Ill.

³ Denber, H. C. B.: *Am. J. Psychiat.*, 115 : 4, Oct. 1958.

tracing of 14 and 6 per second positive spiking.

Twenty patients were treated by the "drug-symptom" procedure, and 11 were on psychotherapy with adjunctive use of the drug. In the "drug-symptom" procedure, the therapist saw the child and parents in brief sessions centering on the symptoms and drug response. In the other group, the therapist had regular psychotherapeutic sessions with the child and his family, and the drug was prescribed at a set dosage level.

Most of the children were treated on daily doses of 1600 mg. or less of mephenoxalone. Children of 3 and 4 years of age were given up to 2800 mg. per 24 hours. Eleven children were on continuous mephenoxalone therapy for more than 6 months.

RESULTS

Nineteen (61%) of the cases showed excellent or good improvement, 5 cases fair improvement, and 7 cases no change. Five of the 6 excellent responses were in cases where no formal psychotherapy was used. These patients were seen by a therapist for only one brief interview of about 20 minutes.

In no case, regardless of dosage or duration of treatment, was any side reaction reported. Laboratory and EEG studies remained normal or unaltered.

The R. case illustrates a comparison with chlorpromazine.

The 3-year-old girl was hyperactive. Chlorpromazine was prescribed and the patient was followed over 2 years. She was changed to

mephenoxalone and over a 12-month period did equally well.

P. was a 10-year-old boy with mild behavioral disturbances and a 14 and 6 per second pattern. He had been treated previously with diphenylhydantoin, mephobarbital and chlorpromazine. He was sustained well on mephenoxalone, equal to the state obtained with diphenylhydantoin and superior to that obtained with chlorpromazine.

In psychoneuroses, somatization reactions, and school phobias, mephenoxalone was used to allay the physiological components of the 14 and 6 per second syndrome, allowing psychotherapy to proceed more readily.

In the case of O., hyperactivity prevented an 8-year-old boy from functioning well in a private school. He was placed on mephenoxalone and a significant change in behavior was noted in about 2 weeks. As psychotherapy took effect, a second component of his hyperactivity, stemming from anxiety, also abated.

CONCLUSIONS

Mephenoxalone appears to be a useful medication for cases demonstrating 14 and 6 per second spikings. Its activity warrants further investigation in the areas of brain damage, especially in the so-called diffuse brain damaged child. Mephenoxalone was used in 31 children with various diagnoses. It proved helpful in 2 types of therapy: drug-symptom focused and psychotherapy-drug adjunctive. Improvement of excellent and good ratings was achieved in 55% of the former and 75% of the latter groups.

IMIPRAMINE-PROMAZINE THERAPY FOR DEPRESSION

BENJAMIN POLLACK, M.D.¹

It is well recognized that depressions have varied disguises and external symptoms(1). Essentially, all exhibit superimposed fear, apprehension and anxiety. Excellent results with imipramine (Tofranil) therapy have been obtained in many types of depression

(2, 3) while certain cases associated with marked agitation and anxiety have been somewhat less responsive(4-6). The use of imipramine combined with promazine (Sparine) has recently proved to be most effective in various types of depression, with overall good response of the entire pattern of target symptoms(7). In our study we

¹ 1920 South Ave., Rochester 20, N. Y.

have used a combination of these 2 drugs (TofranazineTM)² in a convenient capsule form.

The new drug combination was used in the treatment of 35 patients (24 females and 11 males). One patient was a schizophrenic and the others had some form of depression. All patients were from private practice and the majority were in the 40- to 80-year age group. They were under therapy for periods ranging from 1 to 7 months.

Most patients were started on a 1 : 2 ratio (25 mg. imipramine plus 50 mg. promazine per capsule) with one capsule q.i.d. In the more serious cases this was rapidly increased to 6 to 8 capsules, and in a few instances to 12 capsules per day. Several patients received a 1 : 1 ratio (25 mg. imipramine plus 25 mg. promazine per capsule) or a 1 : 2.5 ratio (10 mg. imipramine plus 25 mg. promazine per capsule). With one exception, the latter group consisted of those patients who after improvement were placed on maintenance dosage. More than half the patients received small supplementary doses of a phenothiazine, usually chlorpromazine (Thorazine), at night to overcome sleep disturbances. In cases of pronounced agitation or anxiety, a small amount of phenothiazine was also given with each meal.

Effective dosage appeared to be independent of body size, but tended rather to serve a physiological need created by a biochemical defect in enzyme metabolism. Many patients of small body build were able to absorb, without ill effect, large amounts of the drug combination.

In addition to medication, all patients received intensive psychotherapy. More than half of the cases also required supervision, guidance, re-education and discussion, either separately or jointly with the spouse or parent.

Ten of the patients included in this study had previously been on an imipramine-chlorpromazine regime. The transfer to imipramine-promazine was without incident or change in their clinical course, except for one patient who was sensitive to promazine.

RESULTS

Most patients felt much more relaxed and were able to continue their normal routine at work or at home. Remarkably few side effects were observed. A few complaints of morning lethargy or drowsiness were usually controlled by small doses of methylphenidate (Ritalin). The most frequent complaint was dryness of the mouth which became minimal as therapy progressed. Almost half of the patients experienced a mild degree of dizziness at the beginning of treatment. One patient who had been a barbiturate addict had severe spells of dizziness and would fall if he attempted rapid movement or quick change of position. On the lower dosage of 10 mg. imipramine plus 25 mg. promazine q.i.d. and after allowing sufficient time for elimination of barbiturates from body tissues, all signs of dizziness disappeared, but agitation and anxiety increased. Later, when returned to higher dosages, no dizziness or fear of falling occurred. Another patient proved unduly sensitive to promazine. On the 13th day with 150 mg. imipramine and 400 mg. promazine daily, she had a convulsive seizure. She had reacted similarly about a year ago when treated with comparable doses of the individual drugs. She is now being comfortably maintained on imipramine-chlorpromazine therapy.

Tremor occurred in 6 patients, and blurred vision, sweating and tachycardia in one each. Another had a series of falls whenever she was placed on more than 75 mg. imipramine and 150 mg. promazine per day. Many of the older patients complained of constipation.

There appeared to be no orthostatic hypotension. In general, blood pressure changes were minimal (Table 1). Where

TABLE 1
Variation in Blood Pressure *

	SYSTOLIC	DIASTOLIC
Increase	14	14
Decrease	12	9
No change	5	8
	—	—
Total number of patients	31	31

* Average blood pressure before and after treatment: 127.4/76.7 and 127.5/77.2, respectively. Data on 4 of the 35 patients studied are not included in Table 1.

² TofranazineTM was provided by Geigy Pharmaceuticals, Ardsley, N. Y.

the blood pressure was within normal range there was remarkably little variation in the post-treatment pressures. In certain patients Psychiat.—4737—9 & 10 Cal. JM, Bob, *et. al.* who were suffering from hypertension, probably of an emotional origin, blood pressure fell moderately after treatment and remained at this lower level. In some patients blood pressure rose slightly after treatment. This seemed to be coincident with an improved clinical state, better body health and nutrition.

which had motivated them to seek treatment (Table 2). The response of anxiety alone was estimated as over 90% satisfactory—recovered 10%, much improved 80% (Table 3).

All patients were kept on maintenance doses after improvement which was sustained with only an occasional relapse. A few patients who voluntarily discontinued medication, invariably had a recurrence of some depressive symptoms. We have found that even in acute cases of depression as-

TABLE 2
Response To Imipramine-Promazine Therapy
Overall Response *

DIAGNOSIS	COMPLETE		MODERATE		SLIGHT		NONE OR WORSE		TOTAL
	NO.	%	NO.	%	NO.	%	NO.	%	
Involutional depression	2	33.3	3	50.0			1	16.7	6
Manic-depr. depression	7	46.7	5	33.3	1	6.7	2	13.3	15
Reactive depression			1	50.0	1	50.0			2
Depression of organic origin			1	100.0					1
Neurotic depression	2	22.2	6	66.7			1	11.1	9
Schizo-affective depression			1	100.0					1
Schizophrenia					1	100.0			1
Total	11	31.4	17	48.6	3	8.6	4	11.4	35

* Satisfactory Clinical Response=80%.

Of the 35 patients treated, 11 were judged completely recovered, 17 much improved, 3 improved, and 4 unimproved. This satisfactory clinical result in 80%—recovered 32%, much improved 48%—was the response to symptoms of both depression and anxiety

sociated with anxiety or agitation, it is best to continue the maintenance dose for 6-12 months. In some of the chronic or recurring disorders, medication may have to be used indefinitely as the patient continues on psychotherapy. In depression, the marked as-

TABLE 3
Response To Imipramine-Promazine Therapy
Anxiety Response *

DIAGNOSIS	COMPLETE		MODERATE		SLIGHT		NONE OR WORSE		TOTAL
	NO.	%	NO.	%	NO.	%	NO.	%	
Involutional depression			4	80.0	1	20.0			5
Manic-depr. depression	2	16.7	9	75.0	1	8.3			12
Reactive depression	1	50.0	1	50.0					2
Depression of organic origin			1	100.0					1
Neurotic depression			8	88.9			1	11.1	9
Schizo-affective depression			1	100.0					1
Schizophrenia			1	100.0					1
Total	3	9.7	25	80.6	2	6.5	1	3.2	31

* Satisfactory Clinical Response=90.5%.

sociation of symptoms with the family environment must be altered before the patient can be taken off medication. A longer period of medication permits the development of behavior patterns of decreased emotional response to normal stress.

CONCLUSION

Imipramine-promazine therapy resulted in an overall good clinical response in 80% of a group of patients with depressive syndromes. Response of symptoms of anxiety alone was over 90%. Patients were treated privately, and received intensive psychotherapy which included other members of the family. Most patients were very comfortable on the mixture. Serious side effects were few and blood pressure changes were minimal. Additional dosage of phenothiazine was necessary in some cases, especially at night, to induce sleep. The imi-

pramine-promazine combination appears to be highly effective, and would seem to be particularly useful in this new capsule form for the general practitioner and in outpatient clinics.

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INTENSIVE HEPATOLOGICAL STUDIES USING CARPHENAZINE

ERNESTO TIANGCO, M.D.¹

With the rise of pharmacologic therapy for psychiatric disorders, particularly in chronic mental illnesses for which medication must be prolonged, the hepatotoxic potential of the compounds in common use has assumed considerable importance. Not the least among them are certain of the phenothiazine derivatives. The parent compound itself, although a potent anthelmintic, exerts a deleterious action on the human liver, hence can be used as a vermicide only in veterinary medicine. Hubble(1), in 1941, first called attention to the hepatotoxic action of phenothiazine (Nemazine) and pointed to the already well-known fact that substances containing benzene rings are potentially poisonous to both liver and blood-forming elements.

The initial trials of carphenazine,² a phenothiazine derivative of the piperazinyll series in which a propionyl group is substituted at the second position on the ring,

provided definite indications that the compound could favorably influence psychotic symptoms in schizophrenics who had steadily regressed for 3 years or more(16), and that the risk of liver disturbances was minimal. A preliminary investigation therefore was initiated at this institution in a series of severely deteriorated chronic schizophrenic patients to determine the safety as well as the therapeutic potency of this substance.

The group comprised 9 chronic schizophrenics (5 men, 4 women) ; 7 of the cases were of catatonic, 1 of chronic undifferentiated and 1 of simple type. Their ages ranged from 21 to 62, with an average of 42 years ; the duration of illness, from 7 to 35, with an average of 18 years. Physical findings were essentially normal for all. There was some rigidity of the leg muscles in 1 patient ; and tremor of the leg, the residual of a long past operation, in another.

A wide variety of treatments had been administered throughout the previous 19 years, including numerous courses of ECT, insulin subcoma, prefrontal lobotomy, reserpine, various phenothiazine derivatives,

¹ From the Mental Health Institute, Independence, Iowa.

² Carphenazine is available as Proketazine (Trademark) from Wyeth Laboratories.

monoamine oxidase inhibitors, and even central nervous system stimulants. None of these agents or therapeutic measures had produced any perceptible reduction of the psychosis.

Pretreatment laboratory studies. Bromsulphthalein excretion, serum glutamic oxaloacetic and pyruvic transaminase tests; complete blood counts and EEGs were performed before the start of carphenazine medication. Bromsulphthalein excretion at 45 and 60 minutes was slightly elevated for 6 patients, the leukocyte count was slightly elevated for 2 and the EEG for 1 patient showed spiking indicative of diencephalic epilepsy. All other findings were normal.

Dose. All patients received carphenazine continuously for 115 days (nearly 4 months). Treatment was initiated with a daily dose of 25 mg., which was increased in the ensuing 3 or 4 weeks to 100 mg. daily; and ultimately the dose was raised to 150 mg. (1 patient), 200 mg. (6 patients), and 300 mg. (2 patients).

RESULTS

Of course, no therapy, pharmacologic or otherwise, can be expected to restore to normal the severely deteriorated intellectual and emotional powers and deficient personal capabilities of the patient suffering from long established schizophrenia. Recovery was not expected for any of this group, nor even partial remission. However, at the end of 115 days of medication, 3 did show moderate overall improvement. These were in the areas of reduction of anxiety, tension and negativism, greater accessibility and lessened withdrawal.

The results of the *laboratory studies* conducted throughout treatment are of significance. The findings in the bi-weekly transaminase determinations, and weekly complete blood counts and urinalyses remained within normal limits for all patients during the 115 days of uninterrupted medication. Slight transient fluctuations in blood pressure occurred in 3 patients, which did not affect their activi-

ties and probably were not associated with therapy.

No side effects developed.

SUMMARY

Nine severely deteriorated chronic schizophrenic patients were treated continuously for 115 days with carphenazine in daily doses that were initiated at 25 mg. and ultimately raised to 100, 150, 200 and 300 mg. Three showed moderate and 5 slight overall reduction in symptoms.

The findings in bi-weekly transaminase determinations and weekly complete blood counts and urinalyses remained within normal limits for all patients throughout treatment. According to these preliminary data, carphenazine appears to be a safe agent for long term antipsychotic treatment.

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CASE REPORTS

ATROPINE-LIKE COMA WITH DITRAN THERAPY

WESLEY A. KISSEL, M.D.¹

The author reports a case of a woman being treated with Ditrان for depression who unexpectedly developed a temporary coma.

Ditrان is a new investigational drug (JB-329, Lakeside Laboratories, Milwaukee, Wis.) which has psychotomimetic properties and has been associated with dramatic improvements in depressive patients after single intra-muscular injections of 10-30 mg. Aboud and Meduna(1) were among the first to report on its effects in 1958. Finkelshtein(3) has also indicated its usefulness with depressed and some schizophrenic patients. The peripheral anti-cholinergic effects have been amenable to antagonistic drugs as with atropine, but not the central effects. Recently Gershon and Olariu(4) have demonstrated the antagonism of Ditrان's central effects by a different anticholinesterase agent, tetrahydroaminacrin.

These reports(1, 3, 4) have noted a stuporous reaction but not coma. Miller, Schwarz, and Forrer(5) describe the coma which ensues when atropine is used for coma therapy in doses of 32-208 mg.: there is a "progressive, neurophysiological regression smoothly and without disruption to the third stage of coma." Along with restlessness, delirium, delusions, hallucinations, and coma they describe progressive motor incoordination, decreased pain sensitivity, and hyperreflexia with Babinski sign.

A 57-year-old, single woman was admitted to the Psychiatry ward of the Marion County General Hospital on June 4, 1960 after emergency surgery for slashing her left forearm eight times and then trying to hang herself. She had been despondent for 5 years and progressively more depressed and agitated for 5 months. She had considered suicide for several weeks. She was given a diagnosis of involu-

tional psychotic depression with anorexia, weight loss, constipation, feelings of body ruin and ugliness, hopelessness and unworthiness, and somatic delusions. Neurological examination was normal. Physical examination revealed occasional VPC's but otherwise heart function was good. EEG, BUN, PSP, CBC, VDRL, urinalysis, and chest x-ray were normal. Psychological testing corroborated the clinical diagnosis.

On June 20, she was given a light breakfast with fluids to avoid dehydration one hour before the injection of 15 mg. Ditrان I.M. Before the injection blood pressure was 164/80, pulse 84, and pupils 3 mm.

Ten minutes after the injection she jerked her arm and said, "Can't talk, can't see, wave coming over me; see sister on the ceiling." At 20 minutes heart rate rose to 90, pupils dilated; she was mute and wide-eyed, and alternated between drowsiness and apprehension. At 25 minutes pulse was 96, breathing somewhat stertorous, muscle stretch reflexes were hyperactive and equal bilaterally and she had bilateral Babinski signs. At 30 minutes P 96, BP 150/80, breathing was stertorous and there was only slight withdrawal to pain stimuli. She remained in this state apparently identical with third stage of atropine coma and near third stage of insulin coma for about one hour. Corneal reflexes were always present. Pupils remained dilated. Muscles were hypotonic. Heart sounds were good with no murmurs. Heart rate and blood pressure were stable. Bowel sounds were moderately active.

At 75 minutes she was a little more restless and muscles had more tone. At 1½ hours her general level of responsiveness was slightly elevated. At 3¼ hours she would jump, stare, and grab, apparently responding to hallucinations. Babinski signs were still present but other plantar flexion signs were gone. At 4 hours she was restless, apprehensive, defensive to sensory stimuli, grabbing at air, trying to get up. She tried to talk. Babinski signs were practically gone. At 5 hours she said her first words, but was restless, disoriented, hallucinating, and nauseated. She drank water with support. To 8¼ hours, much the same. Then orientation, reality contact, and communication began to

¹ Depts. of Psychiatry, Marion County General Hospital and Indiana University Medical School, Indianapolis, Ind.

improve. She was more calm. At 10½ hours she still manifested some flight of ideas, some perplexity, and restlessness. At 12 hours she was oriented, relaxed, and said that she felt better.

This course was typical for patients treated with Ditrán, with the exception of the coma. The following day she was cheerful, active and with no complaints. Two days later there was some regression. She was treated with an oral antidepressant drug, occupational therapy, milieu therapy and supportive psychotherapy and released much improved on July 29, 1960.

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THE PRESIDENT'S PAGE

STATE SURVEYS

When a citizen movement or legislative concern focuses upon the mental health program of a state or province the government may wish consultation. Opposing views are often hotly debated. Partisans defend their position. A genuine desire may exist to evaluate objectively the work of an institution or the effectiveness of a total psychiatric program.

Private management consultants can advise on personnel or business practices but mental hospital and clinic inspection and program building requires a professional psychiatric overview.

The Central Inspection Board was established to survey psychiatric facilities, public and private, and to recommend improvements. Under endowment, it functioned admirably and contributed significantly to the betterment of patient management in hospitals. It proved too costly for the American Psychiatric Association to operate, even with a charge for services. The C.I.B. became a deficit operation draining association resources. It fell several years behind in communicating findings in its reports. Recently the C.I.B. was dissolved by council action.

The Joint Commission on Accreditation of Hospitals now is the sole inspecting body remaining. One psychiatrist is a member of the commission. Its inspectors in the field often are wholly unacquainted with mental hospitals. Evaluations of performance are based upon the ability to do surgical and medical procedures well. But psychiatry has its own unique requirements and they are not similar to those of surgery. Negotiations by the American Psychiatric Association with the commission over the years have been helpful but not operationally effective. Psychiatry has not been able to pay for the extra cost of inspections essential if special examinations are to be made by experienced psychiatrists.

State Surveys came into being as an APA authorized service, while the C.I.B. was still functioning. When a request for

assistance was received from a state or province, the Medical Director contracted for the survey.

The Medical Director or a psychiatrist on the APA Central Office staff or a consultant, approved by the Survey Board and acceptable to the state or province, plans and organizes the evaluation of local resources and visits psychiatric facilities. A committee of experts is selected that is representative of important professional and lay interests. The psychiatric association, the medical society, the citizens mental health group, and university leaders as well as other representatives of health and welfare agencies comprise the local advisory committees.

After several meetings of the local committee of experts, and discussion of deficiencies and needs, a draft report analyzing existing services, noting deficiencies and recommending improvements is prepared and circulated for review. After incorporation of revisions a signed report—The State Survey—is delivered to the controlling party, most often the governor.

Recently the APA Council added a mechanism for review that is now in operation. A committee of members with broad administrative experience, hears the evidence of need for a survey and approves or disapproves the undertaking. Once the final report is prepared, it is examined for accuracy.

Political booby traps can not always be avoided. "Foreigners" are not always sensitive to provincial intrigue. The chosen experts for the advisory committee may not be "the best men." Partisan factions cling to this or that leader and deny the expertness of the other. Even when conflicting interests are known, it is impossible to avoid criticism.

The good report stirs up a storm. We are unfairly criticized! We are ignored! The inspector was incompetent! are three commonly heard complaints. The State Survey was not developed as a method of arbitra-

tion to settle local disputes. It was designed to evaluate present psychiatric programs and to present a master plan as a guide to development. An honest effort is always made to reach the best available local leaders "to pick their brains" and to hear their views. The choice made between alternates is in the draft report open to advance discussion.

There are those members of our association who would abolish the State Survey. That is one sure way to avoid controversy. However, there is a very real demand for the help of an outside agency to evaluate state psychiatric resources. Presently help is not available from any other source. If the State Survey were abolished one of the following alternates could be developed:

Establish a panel of psychiatric administrators who would be available to lead a survey in the established model. This plan could include or exclude the Medical Director of the APA depending upon his qualifications.

The APA might help pay the salaries of inspectors for the Joint Commission on Accreditation of Hospitals or finance their consultants when evaluation is made of any psychiatric facility. This would be expensive.

Press for reestablishment of inspections and program planning by the United States Public Health Service Regional Offices.

Encourage formation of a private corporation for inspection of psychiatric resources. An association of "old pros" could render a real service. I'm not sure it would be either profitable or popular after a few reports.

The Council has approved the continuance of APA sponsored State Surveys subject to review by committee of members with administrative experience and subject to advance agreement of cooperation from the state or province government, the psychiatric association or district branch, the local medical societies and the mental health association.

WALTER E. BARTON, M.D.,
President.

COMMENTS

GOVERNORS' CONFERENCE ON MENTAL HEALTH

The National Governors' Conference on Mental Health held in Chicago Nov. 9-10, 1961 may well prove to have been a hopeful turning point in dealing with the age old problem of mental deviation and illness. While the past half-century has many fruitful attacks on this problem to its credit, vastly more remains to be achieved if psychiatry is ever to overtake the record set by general medicine and epidemiology in eradicating diseases that formerly ran a plague-like course. Mental disease still has plague-like characteristics.

For years we have been talking about the conversion of the asylum into the hospital, but the Governors' Conference notes that as of now about half of the patients in the mental hospitals of the country "receive no more than custodial care rather than active treatment." Most of the community clinics, whose function is to see patients promptly in the hope of avoiding admission to hospital, have waiting lists that delay service to applicants for long periods—3 months to a year. Only a few states provide aftercare for discharged patients. With adequate community services the Conference estimated that 75% of the acutely mentally ill will not require long and costly institutional care. State-matching grants to local communities to provide the necessary services are recommended; likewise state appro-

priations to extend psychiatric services in general hospitals.

Many other essentials in this field presently lacking or inadequate were dealt with in the Governors' Conference, including such items as professional personnel shortage, research needs, importance of simplifying to the utmost formalities of admission to mental hospitals, dealing with psychiatric cases in the greatest possible measure on the same basis as physical disabilities.

Some of the recommendations of the Conference are utopian or for the future; others are presently practicable; many of them have been urged for years by individuals and organizations whose business is mental health.

It is heartening to have the whole matter now brought forward and handled as the Governors' Conference has done. The Heads of the States have not been content to state deficits in the medical program which should be made up, and perhaps suggest measures to that end. They invite the collaboration of all concerned, and propose for the maintenance of interest, and activity in line with that interest, to establish at the next annual meeting of the Governors' Conference a Standing Committee on Mental Health.

RIGHTS OF MENTAL PATIENTS

The American Bar Foundation is conducting a nation-wide study of the rights of the mentally ill. Surveys in 6 states have already been completed and a seventh was launched in Georgia in January 1962.

Mr. Hugh A. Ross, Professor of Law at Western Reserve University, director of the Bar Foundation project together with field research associates conducts the survey, a leading purpose of which is to learn how to "improve the process of getting

mentally ill persons in and out of treatment facilities." States in which surveys have been made are California, Kansas, Missouri, Pennsylvania, Delaware, and Illinois.

Mr. E. Blythe Stason, former dean of the University of Michigan Law School, is head of the Bar Foundation, and prominent psychiatrists and legal consultants constitute the project advisory board. Mr. Stason has stated that the ultimate aim of the project

is to formulate a model act, based on the findings of the study, which would ensure adequate protection of the rights of the mentally ill.

It is to be hoped that the projected model act, which will ensure uniform procedure throughout the country, may reduce legal

formalities to the utmost minimum, promote voluntary admissions to hospitals or other treatment facilities, and provide that, having regard to the safety of both patient and others, there may be no unnecessary distinction in the management of one who is mentally ill and that of other sick persons.

What has Become of the Medicines of the Materia Medica?—In looking over many of the Medical Mirrors of therapeutics of the day we see nothing of the familiar names of the pharmacopoeia, but in their stead numberless newly-coined proprietary terms, such as phanacetine, sulphonal, hypnal, antikamnia, petroline, tasso-petroline, antisaron, therapine, exalgine, catalgine, tongaline, listerine, antipyrine, papine, neuraline, bromopyrine, and numberless *antis* and *ines*, febrina, cactina, sal lister, kumysgen, proteinol, ponca, bromidia, katharmon, chionia, europhen, aristol, dermatol, benzothol, vin mariana, apioline-chapouteaut, febricide, tritica, bovine, papoid, iodotane, santal-midy, sanmetto, salophen, ergotole, svapnia, iodia, dio viburnia, lithiated hydrangea, "*et id omne*." "What's in a name?" There's money in it. "What are we coming to?" "Heaven only knows."

—ALIENIST AND NEUROLOGIST
(Editorial, 13 : 4, p. 744, 1892.)

NEWS AND NOTES

AMERICAN ORTHOPSYCHIATRIC ASSOCIATION.—The thirty-ninth annual meeting of the Association will be held at the Biltmore Hotel, Los Angeles, California, March 21-24, 1962, under the Presidency of Fritz Redl, Ph.D., of Detroit; George E. Gardner, M.D., President-Elect.

There will be several panel sessions as well as the presentation of papers.

The deadline for advance registration is March 5, 1962.

For information address Marion F. Langer, Ph.D., executive secretary, 1790 Broadway, New York 19, N. Y.

INTERNATIONAL REVIEW OF CRIMINAL POLICY.—No. 17-18, Oct. 1961, United Nations.—This issue deals with the design and construction of penal institutions. Some of the contents are of interest to psychiatrists, particularly the references to psychiatric facilities for prisoners. For example (page 10) there is reference to a special institution which is now being built in England as a psychiatric prison hospital. A footnote refers to a monograph on the design of psychiatric clinics prepared on behalf of the World Health Organization.

INDIAN PSYCHIATRIC SOCIETY.—The 15th annual general meeting of the Indian Psychiatric Society will be held on March 15-17, 1962 at Mental Hospital, Agra, U.P., India.

Psychiatrists visiting this country at the time will be cordially welcome. Further correspondence should be made to Dr. K. C. Dube, M.B.B.S., D.P.M. (London), Organising Secretary and Superintendent, Mental Hospital, Agra, U.P., India.

THE SCHREBER CASE.—A symposium on *Reinterpretation of the Schreber Case: Freud's Theory of Paranoia* will be held at the annual convention of the Eastern Psychological Association at the Chalfonte-Haddon Hall Hotel, Atlantic City, N. J., 8:15 P.M., Thursday evening, April 26, 1962.

The panelists will be Arthur Carr, Ph.D.; Renatus Hartogs, M.D.; William G. Niederland, M.D.; Jule Nydes, M.A.; Robert B. White, M.D.; and Philip M. Kitay, Ph.D., Chairman.

NATIONAL ASSOCIATION FOR MENTAL HEALTH ANNUAL MEETING.—Using as a framework the report and recommendations of the Joint Commission on Mental Illness and Health, 600 conferees representing 800 state and local affiliates of the National Association met in Miami at their 11th annual convention, November 14-18, to analyze their own program and to plot a course for the following year.

The opening program session, Thursday, November 14, heard a summary report on the Commission's recommendations by Dr. Jack R. Ewalt, the Commission's director, and commentary by Dr. Rene Dubos of the Rockefeller Institute, Dr. Fillmore H. Sanford of the University of Texas and Dr. Dale C. Cameron, Assistant Superintendent of St. Elizabeths Hospital.

Later that day Dr. Seymour S. Kety emphasized the Commission's urgent plea for expanded basic research. Reports were heard from individual scientists on such subjects as biochemical aspects of schizophrenia, commitment laws and procedures, milieu therapy, cultural factors and mental illness, psychological factors, in aging and the effects of self perception in the course of psychosis.

Throughout the day, three fundamental themes were reiterated: the need for vastly expanded psychiatric research; the importance of multidisciplinary research in mental illnesses; and the need for diversification of sources for financial support of research. A unique characteristic of voluntary research support—it was pointed out—is the opportunity it affords for a more venturesome approach than is permitted in government financed research. Another feature is the opportunity it gives to the younger and less well-known scientists. Dr. William Malamud, research director, demonstrated how grants from the Research

Foundation of the National Association for Mental Health had produced rewarding results in both these areas.

The following day, the conferees worked, in discussion groups, on eight areas of program activities of the National Association for Mental Health: information services, mental health careers, psychiatric services in general hospitals, services to ex-patients, mentally ill children, hospital volunteer services, legislation and public policy, and public information and education. Each subject was explored in the light of Joint Commission recommendations, and resolution for action were taken as follows:

1. *The manpower problems*: an urgent need for stepped-up recruitment and training of medical and non-medical professional personnel.

2. *Hospital and related services*: assurance of modern treatment for all patients in state mental hospitals; much wider development of psychiatric services in general hospitals, day and night hospitals; development of separate and special treatment facilities for mentally ill children.

3. *Aftercare and rehabilitation services*: expansion of community facilities for social, vocational, and medical aftercare, and rehabilitation for the ever increasing number of patients returning from mental hospitals.

The role of the citizens' voluntary health movement in bringing about these developments in partnership with government agencies and the professional organizations was stressed at one function by Representative John E. Fogarty of Rhode Island and Dr. Ewalt, speaking for the APA, and Dr. Joseph M. Bobbitt, representing the NIMH. The manner in which this partnership operated in the Milledgeville State Hospital in Georgia, was described at another function by Ralph McGill, publisher of the *Atlanta Constitution*.

The urgent need for citizen leadership in these efforts was stressed by newly elected president of the NAMH, Frazier Cheston. Mr. Cheston noted that with present knowledge medical science could do more for victims of mental illness than for victims of heart disease and cancer. He called for the application of the treatment methods already available to all the mentally sick who needed them. It was the special task of the

citizens voluntary mental health movement, he said, to stimulate and mobilize interest and action in the communities, and in legislatures, for enactment of recommendations of the Joint Commission concerned with the treatment and prevention of mental illness and rehabilitation of the mentally ill.

The Board of Directors of the NAMH declared it to be the responsibility of the NAMH to keep the report and recommendations of the Joint Commission constantly in the forefront of public interest. The Board endorsed the Joint Commission's report in general and pointed to the desirability of reduction in the size of future mental hospitals, and decentralization of existing large institutions; expansion of psychiatric services in general hospitals and increase of other community services for diagnosis, treatment and rehabilitation.

The Board of Directors also adopted a resolution opposing a \$5,300,000 cut made by Secretary of Health, Education and Welfare Ribicoff in the funds voted by Congress for the National Institute of Mental Health, and urged restoration to the level voted by Congress.

The Board also approved plans for the merger of the National Organization for Mentally Ill Children into the National Association for Mental Health. Final action is expected before the end of the year.

Other officers elected with Mr. Cheston were Arnold Maremont of Chicago, as 1st vice-president, and Jesse Dickinson of South Bend, Indiana, as 2nd vice-president, and five regional vice-presidents: Frederick G. Singer of Wilmington, Dr. Rives Chalmers of Atlanta, James Oppenheimer of St. Paul, Frank Proctor of St. Louis, and Judge David Brofman of Denver.

WORKSHOP IN THE RORSCHACH TECHNIQUE OF PERSONALITY DIAGNOSIS.—This workshop jointly sponsored by Claremont Graduate School and Children's Hospital, Los Angeles and directed by Bruno Klopfer and Helmut Wursten will be held on July 8-20, 1962 at Asilomar Conference Grounds, Pacific Grove, Calif. It will be devoted to the study of projective techniques as used with children.

All students wishing to qualify for gradu-

ate credit must apply to the Claremont Graduate School, Claremont, Calif., before May 15, 1962 after they have been notified of admission to the Workshop. Tuition will be \$60.00.

For applications write to Dr. Bruno Klopper, P.O. Box 2971, Carmel, Calif., before June 1, 1962.

THE STUDY OF CRIMINOLOGY IN CAMBRIDGE. By *Leon Radzinowicz*.—This is a pamphlet copy of an address given to the (English) Medico-Legal Society. It contains a description of the Institute of Criminology in the University of Cambridge, particularly its activities in teaching and research. These activities include "the psychiatric and psychological aspects of criminal behaviour." Some of the lecturers are drawn from the Institute of Psychiatry in the University of London (Maudsley Hospital). Dr. D. R. Cressey of the University of California has been selected as the first Visiting Fellow from the United States.

PSYCHIATRY AT WEST VIRGINIA UNIVERSITY—SCHOOL OF MEDICINE.—A new Department of Psychiatry has been activated at this medical center by appointment of Thomas A. Loftus, M.D., as Professor and Chairman of the Department. Dr. Loftus was formerly Associate Professor of Psychiatry at Jefferson Medical College. Teaching and clinical services will be centered in a 28-bed inpatient service in the new 522-bed Medical Center, and an extensive outpatient department serving the physicians of the State of West Virginia.

The staff now includes Charles E. Goshen, M.D., former Director of Community Psychiatric Services for the State of Maryland, and Robert Vosburg, M.D., currently with the Western Psychiatric Institute and Clinic in Pittsburgh, Pennsylvania.

POST-GRADUATE COURSE IN CRIMINOLOGY.—The Institute of Criminology at the University of Cambridge offers a second post-graduate course, beginning October 1, 1962. A diploma in Criminology will be given to those who pass a written examination in five papers.

The teaching program consists of lectures, seminars and practical work in all major aspects of criminology. During vacation as well as term time practical work will be undertaken by the students at agencies concerned with the prevention of crime and the treatment of offenders. Individual work will be required at the seminars.

Instruction will be given by the Wolfson Professor of Criminology, by staff members of the Institute and the University, and by others with particular experience in the administration of criminal justice.

The course will be open to those who hold a university degree, not necessarily in law. In exceptional cases candidates without a degree may be admitted. In order to maintain the highest possible standard the number of admissions will be limited.

Application forms may be obtained from The Secretary, Institute of Criminology, 4 Scroop Terrace, Cambridge, England. The deadline for application is April 1, 1962.

PSYCHIATRIC RESIDENCY TRAINING.—This residency program has been approved by the Council on Medical Education of the American Medical Association for 3 years in adult psychiatry and for 2 years in child psychiatry. Clinical facilities include the Flower Fifth Avenue Hospitals, the Metropolitan Hospital and the Bird S. Coler Memorial Hospital in New York City.

Both psychiatric and psychoanalytic training are included in the course. Arrangements have been made for the personal didactic analysis to be provided at a fixed reduced fee.

ALFRED P. SLOAN LECTURESHIP AT TOPEKA, KAN.—Dr. Angel Garma, psychoanalyst from Buenos Aires, Argentine, is the current Alfred P. Sloan visiting professor in the Menninger School of Psychiatry in Topeka. His lectureship extends from January 16 for a two-month appointment. It is financed by a grant from the Alfred P. Sloan Foundation of New York.

A. E. BENNETT AWARD.—The Society of Biological Psychiatry is offering an annual award made possible by the A. E. Bennett

Neuropsychiatric Research Foundation. The award will consist of \$500, part of which is to be used for traveling expenses to the meeting. It will preferably be given to a young investigator, not necessarily a member of the Society of Biological Psychiatry, for unpublished work. The paper will be read as part of the program of the annual meeting of the Society and will be published with the other papers read at that meeting in the book: **BIOLOGICAL PSYCHIATRY**, Volume V. The honorarium will be awarded at the annual banquet. Please submit paper in quadruplicate to Harold E. Himwich, M.D., Chairman, Committee of Award, Galesburg State Research Hospital, Galesburg, Illinois. Deadline for manuscripts is March 31, 1962.

GRANTS FOR PSYCHIATRIC RESEARCH IN CANADIAN UNIVERSITIES.—Dr. M. Saffran, Associate Professor in the Department of Psychiatry, McGill University, has been awarded a three-year grant aggregating \$110,000 by the National Institute of Health of the Department of Health, Education, and Welfare, Washington, D. C., to support his studies in Neural Peptides.

Dr. Saffran will continue his probe into experimental therapeutics under the direction of Dr. R. A. Cleghorn. Of the two principal forms of control, Dr. Saffran is mainly interested in the one whereby the brain puts chemical substances into the blood stream. The specific investigation for which the grant was made was begun in 1955 with the aid of Federal-Provincial grants, and is designed to investigate the techniques by which the brain controls bodily functions.

Dr. Colin M. Smith, Assistant Professor of Psychiatric Research at the University of Saskatchewan, Saskatoon, has been awarded a \$22,500 grant from the National Mental Health Research Fund, it has been announced by Ian V. Dubiensi, National President of the Canadian Mental Health Association.

This fund of which Dr. Ray F. Farquharson, Professor Emeritus of Medicine, University of Toronto, is Director for the year was established in 1958 by the Canadian Mental Health Association and is supported by private contributions. Its purpose is to

give reasonably long term financial support to promising research scientists in studies related to mental health. "The fund is to support research careers, not projects."

Dr. Smith is engaged in a research program at the University of Saskatchewan to develop a new pattern of psychiatric care. It will involve the family doctor and the local general hospital to provide, if possible, a complete and comprehensive psychiatric service without using the traditional mental hospital.

FIRST PAN AFRICAN PSYCHIATRIC CONFERENCE.—This Conference, recently held in Abeokuta, was attended by some 100 psychiatrists from the USA, England, Germany, Holland, Canada, Norway, the World Federation of Mental Health and 13 African countries. The delegates compared the types and nature of illnesses encountered in Africa with the same phenomena in the Western world.

Four Cornell faculty members attended the Conference. Dr. and Mrs. Alexander Leighton and Professor Charles C. Hughes reported on a pilot study of mental health and social change in Nigeria which they conducted last year under the Cornell Program on Social Psychiatry.

Dr. T. A. Lambo, director of the Aro Hospital for Mental and Nervous Disease in Abeokuta, who organized the Conference has closely worked with the Cornell researchers in the Nigerian study. He proposed last spring that Cornell should cooperate to establish the first institute for mental health in West Africa.

Through Dr. John Summerskill, vice president of student affairs and associate professor of clinical medicine, Cornell offered a tuition free scholarship for a Nigerian student to study at Cornell next year. In exchange a Cornell graduate would study at the Institute of African Studies at the University of Ife. Possibilities for an exchange between these two schools in an English language training program for Nigerians are being considered.

THE MAUDSLEY REQUEST LECTURE COURSE.—Dr. D. Ewen Cameron, Director of the Allan Memorial Institute, and Professor and

Chairman of the Department of Psychiatry, McGill University, was invited to contribute to the Maudsley Request Lecture Course held at the Royal Society of Medicine in London, England, on February 12 and 13, 1962. The title of his lecture was "The Depatterning Treatment of Schizophrenia."

PSYCHIATRIC POINTS OF VIEW REGARDING LAW AND PROCEDURES GOVERNING MEDICAL TREATMENT OF THE MENTALLY ILL.—This 12-page document contains the testimony presented to the U. S. Senate Subcommittee on Constitutional Rights on March 28, 1961, by Drs. Francis J. Braceland and Jack R. Ewalt on behalf of the American Psychiatric Association and the National Association for Mental Health. Mr. Robert L. Robinson, APA Public Information Officer, collaborated in its preparation.

It is thought that it may prove especially useful to speakers and teachers as an outline of current patterns of thought in psychiatric circles on the subject.

This document is distributed by Central Office, American Psychiatric Association, 1700—18th Street, N. W., Washington 9, D. C.

ROUND THE WORLD PSYCHOSOMATIC CLINIC.—Dr. James L. McCartney of Garden City, N. Y., is organizing a series of "Trans-International Psychosomatic Seminars, a nonprofit, nonpolitical, nonsectarian, voluntary, missionary, educational organization, with the purpose of taking up-to-date techniques in psychosomatic medicine to all sections of the world, when invited to do so by

the local medical societies or medical schools."

This will be similar to an expedition organized by Dr. McCartney in 1954. A clinic group is being recruited and will sail in September '62, visiting first Japan, and give lectures and clinics at numerous points in the Far East and at Mediterranean centers.

Information may be obtained by writing to Dr. James L. McCartney, 233 Stewart Ave., Garden City, N. Y.

DR. LHAMON HEADS PSYCHIATRY AT CORNELL.—Dr. William T. Lhamon has been appointed Psychiatrist-in-Chief of The New York Hospital, head of the Payne Whitney Psychiatric Clinic, and Professor and Chairman of the Department of Psychiatry of Cornell University Medical College, the appointment to take effect July 1, 1962. Dr. Lhamon succeeds Dr. Oskar Diethelm, who will retire after 25 years at The New York Hospital—Cornell Medical Center.

Since 1954, Dr. Lhamon has been Professor and Chairman of the Department of Psychiatry at Baylor University College of Medicine in Houston, Texas.

He was responsible for the initiation and development of the Houston State Psychiatric Institute, which opened early in 1961.

Prior to his appointment at Baylor, Dr. Lhamon was Professor of Clinical Psychiatry at the University of Pennsylvania Medical School in Philadelphia. He received an A.B. degree from Stanford University in 1936 and an M.D. from the Stanford University Medical School in 1940. He received postgraduate training in psychiatry at the New York Hospital—Cornell Medical Center.

BOOK REVIEWS

COERCIVE PERSUASION. By Edgar H. Schein—with Inge Schneider, and Curtis H. Barker. (New York: W. W. Norton & Co., pp. 320. \$6.75.)

Brainwashing. What is it? How does it work?

Seldom in recent history have honest attempts to evaluate a contemporary event varied so remarkably in their conclusions. It is difficult to identify another issue of national interest which has for so long been confounded by jarring opinions, emotionally toned misperceptions of human behavior, and the unique projections of the beholder. In the decade since the Korean War, pundits, self-styled psychological warriors, social scientists and clinicians have offered varied and often contradictory interpretations of the dynamics of Communist persuasion techniques. Evaluations have ranged from the sober to the hysterical, from the pseudo-scientific to the best of science fiction. It is likely that the Communist world has at times been as gratified by the national consternation and anguish reflected in these efforts as by the meager success they had in the clinical exploitation of their ideological enemies.

Social scientists, unhappily, have been responsible for a share of the confusion, and Schein's volume is not atypical of that body of work which has sought to make theoretical mountains out of empirical molehills. This is not to say that Communist thought reform techniques as practiced on some political and military prisoners are without scientific interest; certainly they are of urgent national importance. But the attempt to formulate ever new and exotic explanatory hypotheses for brainwashing is making too much of a bad thing.

Aside from "discussions with various China experts" and "reading existing analyses [and] autobiographical accounts," the authors base their work on interviews with fifteen Americans who actually experienced thought reform at the hands of the Chinese Communists. While it is difficult to identify the specific source of data for the various segments of the book, the authors have clearly enriched their effort by including historical material as a backdrop throughout. The first of the four major portions of the book, for example, contains a history of the Chinese Communist party which throws considerable light on the

development and application of thought reform activities; indeed, this is perhaps the most valuable contribution of the volume.

The authors devote the bulk of their effort to detailed analyses of the dynamics of coercive persuasion—primarily in terms of a variety of psychodynamic and socio-psychological theories. These range from psychoanalytic concepts of guilt and anxiety to learning theory, from small group dynamics to communications models. Few areas of social science inquiry are ignored in the attempt (often scholarly, sometimes naïve) to put Communist brainwashing practice into proper theoretical framework. A brief exposition is also given of the parallels between coercive persuasion as practiced by the Communists and related phenomena in other areas of human experience—for example, in psychotherapy and in the development of religious attitudes.

The authors provide a summary chapter in which they identify the conclusions of their investigation; it is here that the reader's disappointment is most acute, for after nearly 300 pages of often labored reasoning, we are given seven conclusions, many of which have long since been available. For example: "The total program of Chinese Communist Thought Reform is extremely difficult to evaluate, in that the program itself operated so unevenly, and the initial experiences of the target individuals varied so widely even prior to exposure to thought reform." Or: "It is exceedingly difficult to predict whether a given prisoner will be successfully influenced or not because of the large number of variables which appear to be involved as determinants of influence for resistance."

The authors' own notion is that the brainwashing events can best be understood in terms of a model of change which includes three phases—"unfreezing, changing, and re-freezing"—a conceptualization that will leave most readers cold. For influence to occur, we are told, there must be induced a motive to change, there must be available some model or other information which provides a direction of change, and there must be a reward for and support of whatever change occurs. This, it need hardly be pointed out, is something less than news—either to the social scientist or the practicing therapist.

The reader who is seeking a more satisfactory discussion of the same subject should turn to Robert J. Lifton's recent *Thought Re-*

form and Psychology of Totalism, an engrossing and beautifully written book, or to relevant portions of Jerome Frank's *Persuasion and Healing*. These authors, like Schein, "avoid the kind of over simplifications which has characterized some of the early efforts to understand [brainwashing]." But their products, fortunately, are free of the unnecessary rhetorical burdens that characterize this book.

JULIUS SEGAL, PH.D.,
National Institute of Mental Health

RELEASED MENTAL PATIENTS ON TRANQUILIZING DRUGS AND THE PUBLIC HEALTH NURSE.
Edited by *Ida Gelber, R.N.* (New York University Press, pp. 139.)

This monograph contains 122 pages in 8 chapters. The first chapter expresses the magnitude and urgency of the problem of mental illness, the inadequacy of services at the community level, and the need to determine the role of public health nursing in follow-up programs for patients released from mental hospitals on tranquilizing drug therapy. Chapters two and three are concerned with intensive review of the literature, indicating the need for a follow-up program. Chapter four reports the results of a questionnaire study directed to 18 state mental hospital authorities, with the implications that with more releases exerting greater demands on already inadequate facilities, the need for follow-up programs becomes necessary. Chapter five contains detailed data from the records of 100 released mental patients who attended the Brooklyn aftercare clinic, emphasizing the need for establishing a program of follow-up care. Chapter six deals with the degree of correlation between the functions of the public health nurse and the needs of the released mental patients on tranquilizing drugs. Chapter seven deals with a proposed public health nursing follow-up program based on cooperation, teamwork, mutual understanding. The last chapter summarizes the important points and gives implications for further research and desirability to create a pilot program.

This compact monograph is timely and informative, indicating that a great deal of time, effort, and interest has been given to it by the author. It is somewhat repetitious and ambitiously documented for a book of its size. It is highly recommended for the public health nurses who are to carry out the program, to those who are to implement the program, and to those who have the responsibility, supervision, rehabilitation, and the post-hospital care

of mental patients released on tranquilizing drugs.

PETER B. HAGOPIAN, M.D.,
Hathorne, Mass.

STEDMAN'S MEDICAL DICTIONARY, 20th Edition.
(Baltimore: Williams & Wilkins, 1961, pp. 1680. \$14.50.)

No one knows who first said it, but whoever it was who said that God doubtless could have made a better berry, but doubtless He never did, may well be echoed in connexion with this twentieth edition of *Stedman's Dictionary*, for there is only one Stedman, and it seems redundant to add the "Medical." Men could doubtless have made a better medical dictionary than Stedman's but most certainly they never have. I have long used an earlier edition of Stedman, and found it indispensable. The present edition is astonishingly good, even though I have found a few small errors, a condition of which no book is free. The present Stedman is a most intelligently organized work, and supplies not only definitions of virtually every available term, but also plates, drawings, diagrams, formulae, scales, symbols, and, O' most thoughtful and useful of gifts! proofreader's marks! Not only will the new Stedman make good bedtime reading, but it will also answer almost every question the reader may ask it as to the meaning of terms in current use and those which may not be so.

The editors, their associates and advisers, and the publishers all deserve our salutes upon this golden jubilee edition of a marvelously useful book.

ASHLEY MONTAGU, PH.D.,
Princeton, N. J.

RORSCHACH PSYCHOLOGY. Edited by *Maria A. Rickers-Ovsiankina*. (New York: John Wiley & Sons, 1960, pp. 483. \$8.50.)

This is a well-written, thought-provoking book which assumes a sophisticated knowledge of the Rorschach technique of personality analysis. It is mainly intended for the experienced clinician who wants to go beyond the use of the Rorschach as a purely diagnostic and personality descriptive tool. In this respect it is a valuable contribution to his thinking and theorizing. Sixteen contributors, all experts in the areas they explore, have done an excellent job of meeting the challenge set for them. What emerges is a book with exciting theories about feeling, about cognition, about relationships—in short a book with exciting theories about

personality, theory, research, and clinical practice. There is an excellent chapter by Piotrowski on the human movement response, an area which has been enriched by his original thinking and research over many years. Shapiro provides a fascinating interpretation of colour from the point of view of perception, which will undoubtedly stimulate important experimental work. The research and theorizing about the experience balance is very well summarized by Singer, including his own practical research oriented reformulation of it. Bohm does a service to the clinician who is unable to read German in presenting Binder's theories about the shading determinant. Havel and Holt contribute an interesting, if highly complicated, research tool for gauging primary and secondary processes in the Rorschach from the point of view of adaptive and maladaptive regression (regression in the service of the ego). All the contributions are useful and tie together many cross segments of research and information which otherwise would not be so readily available. In the last chapter Harris succeeds in casting the depressive light of a grey day on the provocative theorizing with a summary of the status of research on validity in which he attempts to examine the inconsistencies in the Rorschach literature. For all his pessimism he is able to end with the firm conviction that "the inkblots do have something meaningful to say about personality which no other method of depth analysis quite succeeds in tapping."

This book is not likely to be very meaningful to the psychiatrist unless he has a grounding in the Rorschach technique. However, it is highly recommended for the experienced Rorschach clinician and for the personality theorist who may be interested in using the Rorschach as a method of personality investigation. It brings together the most relevant research on the many Rorschach hypotheses that are used in clinical interpretation and for this alone the editor, Dr. Maria Rickers-Ovsiankina, is to be highly commended.

STEPHANIE Z. DUDEK, Ph.D.,
Allan Memorial Psychiatric Inst.,
Montreal, Can.

PSYCHIATRIE HEUTE. By Kurt Schneider. 3rd Ed. (Stuttgart: Georg Thieme Verlag—U. S. and Canada: Intercontinental Book Corp., 1960, pp. 37. DM. 3.80.)

This address was first presented in 1951 to mark Professor Schneider's year as Rector of Heidelberg University. Traditionally the Rector's official address relates to his own department in the university. In the present instance,

therefore, the topic is psychiatry, but he deals with it not as the practice but rather the science. Thus the ten-year-old address is pertinent as it stands. A supplementary section is added wherein the author offers certain specific points and opinions concerning the treatment possibilities and results in the endogenic psychoses.

Kurt Schneider shows that the offhand definition of psychiatry as the *Lehre* of mental illness involves at once the dilemma of trying to unite two incompatibles. We know that mind and body work together, but how they work together we do not know. Somatology and psychopathology are two separate domains, and when in psychiatry we seek to unite them—"Hier ist das Metaphysische gewissermassen mitten drin." Ultimately therefore psychiatry is a metaphysical discipline. It must be dealt with on the basis of an empirical dualism, leaving the original dilemma unresolved.

The author passes on to discuss the 3 variations from a so-called normal pattern.

1. Simple abnormal types, i.e., variations from an assumed average—a quantitative deviation only, with no implication as to *values*. Such variations include personality types, intelligence levels, ways of reacting to experience. No physical basis is known for these minor divergences from the norm; neither can they be considered as pathological or states of illness.

2. Psychic abnormalities that clearly constitute forms of mental illness. Among these mental illnesses occurring during the course of one's lifetime, the exogenic disorders, paresis was the first and remains the sole example that satisfies all the conditions of the so-called "disease entity": uniform etiology, similar physical findings, generally similar mental symptoms, similar physical and mental course ending in deterioration, similar findings in the brain at autopsy.

3. The final group includes the conditions called "endogenic psychoses." These are the schizophrenic and cyclothymic reactions or types of Kraepelin. They do not conform to the specifications of disease entities after the paresis pattern, and they may display indeed transitional or combined symptomatology.

While the disease concept as applied to the endogenic psychoses remains only a postulate, it is worth retaining, for only so may verification eventually become possible.

Kurt Schneider, while bringing forward the metaphysical ingredient in psychiatry, is a severe critic of the speculations of some of the schools. In dealing with the somewhat indeterminate nature of the endogenic psychoses he gives reasons for ruling out positively the ex-

pedient of calling them neuroses. In his courageous and vigorous stand he might almost say with Goethe's great dramatic personality, "Ich bin der Geist der stets verneint."

He cites various possibilities of interpretation, or better for investigation. But meanwhile he takes his stand, freely admitting the element of bias. He is no middle-of-the-roader. Again he follows Goethe: "Aufrechtig zu sein kann ich versprechen; unparteiisch zu sein aber nicht."

C. B. F.

STRUCTURAL PSYCHOLOGY. By D. K. Stanley-Jones. (New York: Pergamon Press, 1960, pp. 179. \$6.50.)

In a laudable effort to unite mind and brain and find a physiologic basis for the emotions, Dr. Stanley-Jones presents this ingenious thesis. The alternating rhythm of night and day led to a cycle in which, during the daytime, the mind-body was associated with aggressiveness, hunger, rage and defense against cold. During the night, the cycle was featured by warmth, satisfaction of hunger, and "lust." Lust is originally symbolized by sucking; rage by biting. Thus, thermostatic control is hooked into the basic life cycle, and this in turn becomes attached to sexual activity. The baby has a double reaction to the mother—the sucking-lust reaction when the nipple is offered; the frustrated-rage reaction when it is removed. Here is the origin of the Oedipus complex, with the hatred-part of the cycle displaced to one parent.

Anxiety neurosis, the author says, is due to coitus interruptus. The "biting" component of coitus is seen as essential to preserve its balance. "Couples who discover that a good bite is the proper consummation of intercourse are freed of anxiety . . . inhibition of coital biting leads to anxiety; its indulgence, to the absence of anxiety." And, Dr. Stanley-Jones adds, "the primary purpose of orgasm is the discharge of coital rage which, if not so released, appears as anxiety."

Superimposed on this rather mechanical explanation of anxiety is a curious mystical superstructure. "The nucleus of every spermatozoon holds the pattern of the father's cortex, therefore, of the father's mind. There is physical continuity of mind between generations, to all eternity past and future. Reason is stronger than faith and does not need faith. It relies on the evidence of the senses."

The book is readable, provocative and uncompromising. At times the reader may have to tighten his seat belt as he flies into the upper atmosphere. But he won't be bored.

HENRY A. DAVIDSON, M.D.,
Cedar Grove, N. J.

PASSPORT TO PARADISE. By Bernard Finch. (New York: Philosophical Library, 1960, pp. 191. \$6.00.)

This volume describes certain "naturally occurring drug substances and certain allied products erroneously considered to be a short cut to happiness." It is for the average lay reader and includes facts on origin, source, and the varied uses of the drugs discussed.

Most of the information is accurate; some piquant historical notes are of interest and will prove entertaining. In addition, several of the black and white photographs are effective and supply another reason for the professionally trained to peruse the book.

Fortunately, for the most part, the author restricts himself to the material indicated. His excursions into the psychologic realm are of varied worth to the ordinary reader; when he writes on etiology his observations are frequently superficial, occasionally misleading and pseudo-scientific.

As the fly leaf states, the author simplifies "complex subjects sufficiently for the non-technical reader." As is usually the case in such instances there is over-simplification but not as much as might be expected.

Most important, the work does strike a blow at the naive misconceptions relating to drugs as panaceas. Of particular value is the emphasis on the dangers of casual use of the tranquilizers as well, of course, as the long-recognized, long-condemned narcotics.

M. BERNARD HECHT, M.D.,
New York, N. Y.

RACE AND SCIENCE. (New York: Columbia University Press, 1961, pp. 506. \$5.00.)

In 1950 the General Conference of UNESCO voted a resolution that the facts relating to "Race" be made widely available by various means throughout the world. To this end two Statements on Race were prepared, one by social scientists and the other by physical anthropologists and geneticists; and 11 brochures on various aspects of the "Race Question" were published. All this material is now gathered together in a single volume at a most reasonable price, and a most excellent volume it is—authoritative, readable, and simple. Juan Comas writes on "Racial Myths," Kenneth Little on "Race and Society," Harry L. Shapiro on "The Jewish People: A Biological History," and on "Race Mixture," Michael Leiris on "Race and Culture," Claude Levi-Strauss on "Race and History," Leslie C. Dunn on "Race and Biology," G. M. Morant

on "The Significance of Racial Differences," Arnold Rose on "The Roots of Prejudice," Otto Klineberg on "Race and Psychology," Marie Jahoda on "Race Relations and Mental Health"; and the volume is concluded with the Statements on Race of 1950 and 1951. The two Statements are preceded by an excellent introduction giving the history of their creation. The volume constitutes a résumé of the best modern thinking on this most vexed of subjects, and is highly recommended to all who are in need for a volume on the subject of "race" and one that they can recommend to others.

ASHLEY MONTAGU, PH.D.,
Princeton, N. J.

TOBACCO: EXPERIMENTAL AND CLINICAL STUDIES, A COMPREHENSIVE ACCOUNT OF WORLD LITERATURE. By P. S. Larson, H. B. Haag, and H. Silvette. (Baltimore: Williams & Wilkins, 1961, pp. 932. \$20.00.)

This large quarto in double-column is the most stupendous book on smoking ever published. If it is not the book on tobacco to end all books on the subject—and it cannot be that—it is certainly the work upon which all others must hereafter rest. The authors are all professors of pharmacology at the University of Virginia, and what they have done is to abstract and most elegantly report on virtually everything that has been done and written on the biological and medical effects of tobacco. The material has been compiled from more than 6000 articles from some 1200 journals, and runs into the year 1959. The amount of work involved in the production of this volume is staggering. In addition to the debt that all who are interested in the subject of tobacco owe the authors, more than a simple genuflexion should be made to the Tobacco Industry Research Committee which made a grant in aid of the completion of this prodigious project.

It is not surprising that this monumental work should read as spiritedly as it does, for the task of writing it fell mainly to the lot of Professor Herbert Silvette, and it is a tribute to his skill as a writer that one may open this book at virtually any page and be at once fascinated as well as informed. If the three authors have missed anything on the subject of which they write, certainly this reviewer has not been able to discover it. I have for more than a quarter of a century collected materials in the same field, and can testify to the completeness of the coverage of the authors. The effects of tobacco upon the nervous sys-

tem, and its influence upon efficiency, as well as other mental functions will be of particular interest to readers of this Journal. There is a complete bibliography and a full index. The authors deserve a monument in appreciation of their labors in creating this invaluable work—but their book is the best monument to their labors that could be offered them.

ASHLEY MONTAGU, PH.D.,
Princeton, N. J.

PSYCHIATRISCHE UND NERVENKLINIK. By Kurt Kolle. (Stuttgart: George Thieme Verlag, 1959, pp. 252.)

Following the example of Kraepelin whose second successor in the chair of psychiatry at the University of Munich the author is, Kolle describes the case histories of 187 psychiatric and neurological patients as they were presented and discussed in his clinical lectures to undergraduate students. As he states in the preface, his main intention in writing his book was a didactic one. However, the commentaries which accompany the individual case presentations have a high scientific standard. The nosological system followed in these lectures is that of Kraepelin. Phenomenological psychopathology as represented by Jaspers and his teachings is closely interwoven. Another aim of Kolle's book is to promote neuropsychiatry and its central position in medicine. The individual cases covering the whole field of psychiatry are described in a vivid and lucid fashion. Each lecture is introduced by a short quotation from Goethe's writings whose great admirer and diligent student the author has been all his life.

V. A. KRAL, M.D.,
McGill University.

PATHOLOGY OF THE NERVOUS SYSTEM. A Student's Introduction. By J. Henry Biggart, M.D., F.R.C.P. (Baltimore: The Williams & Wilkins Co., 3rd Ed., 1961, pp. 360, figs. 239, colored plates 22. \$8.50; Toronto: Macmillan of Canada, 1961. \$7.20.)

This excellent textbook has been improved in its third edition by a considerable increase in the number of illustrations, the high quality of which is enhanced by the better paper used.

The text has been somewhat reduced in length but it remains as eminently comprehensive, lucid and readable as before.

"Biggart" is still a book for any medical library to keep in circulation.

ERIC A. LINELL, M.D.,
Toronto, Canada.



HARRY CARL STORRS

IN MEMORIAM

HARRY CARL STORRS, M.D. 1886-1961

Dr. Harry C. Storrs, former Director of Letchworth Village, died suddenly at the age of 75 on August 26, 1961, while visiting some relatives not far from his home in Hanover, N. H.

Dr. Storrs was born in Hanover, N. H., January 22, 1886. He attended the local schools, received his B.S. degree in 1907 and his M.D. degree in 1910 from Dartmouth College. Following one year of internship, he was employed for one year at the Maine State School at Pownal, Me.

He came to Letchworth Village in 1912 as Assistant Superintendent to Dr. Charles S. Little, who preceded him by one year. The two pioneers built and developed the institution, which occupies a high position among the institutions for mentally retarded, and has gained recognition not only in the United States, but also abroad.

Dr. Storrs continued at Letchworth Village until 1930 when he was asked to take over the responsibility of developing another new institution for mentally retarded in New York State, the Wassaic State School, Wassaic, N. Y. Those who remember the economic conditions in the early 30's will realize what Dr. Storrs had to face as a Director starting a new institution on a limited budget in depression years. He weathered through this period, and remained at Wassaic State School until the death of Dr. Little in 1936, when, in 1937, he was asked to return to Letchworth Village, as he was considered best qualified to carry on the high standards of the institution which he had pioneered in establishing.

Dr. Storrs was a quiet, modest, unassuming man and one of the few physicians who devoted the best years of his life to the care of mentally retarded. He was a truly dedicated man. He loved his patients, spent a great deal of time among them, and knew most of them by their names. In spite of his administrative position, he continued primarily as a doctor; he kept abreast of all new developments in medicine; and up

to the time of his retirement, he made daily rounds in the hospital unit of the institution. He was well versed in the literature on mental retardation. His broad knowledge on the subject was evident at scientific meetings when he was asked to comment on any issue under discussion. Dr. Storrs was a fellow of the American Association on Mental Deficiency, and served as the president in 1937-38. He was also a fellow of the American Psychiatric Association and a member of the local medical association.

Whatever leisure time he had from his busy schedule, he spent communing with Nature. He enjoyed his regular Sunday morning walks into the hills near the institution. He knew every tree and shrub on the grounds, and was considered an authority on animal life in the surrounding community.

Dr. Storrs retired as Senior Director of Letchworth Village July 31, 1956. As a token of appreciation for 44 years of service in the New York State Department of Mental Hygiene, the Department established the "Dr. Storrs' Research Fellowship" at Letchworth Village. Already, three young persons have taken advantage of this fellowship as preparation for their future work. In recognition of his outstanding leadership in the field of mental deficiency in this country and abroad, a boys' dormitory in the Mansfield State Training School and Hospital, Mansfield, Conn., has been named "Storrs Hall" in his honor.

After his retirement, Dr. Storrs returned to his original residence in Hanover, N. H., where five generations of his ancestors had lived and built the city. Incidentally, his forebears in 1769 granted land for the establishment of Dartmouth College. A large part of his time was devoted to the care of his invalid wife and some ailing, elderly relatives. He, however, still found time to write the history of his Alma Mater, and also became interested in refinishing antiques. He apparently derived genuine satis-

faction from this activity, as was demonstrated in his conversation.

Dr. Storrs was a jovial fellow among his peers; he was good company, sincerely enjoyed a good joke—and could tell one. He did not have a spectacular or glamorous career, but he will be remembered as a gentle, quiet man who dedicated himself to the institutional mentally retarded, and who did his job well.

Dr. Storrs was married in 1913 to Julia Colby, a native of New Hampshire, who died in December 1958. He is survived by two sons, Dr. Richard Paul Storrs, a physician practicing in Los Angeles, Calif., and Dr. Robert Colby Storrs, who is practicing in Hanover, N. H.

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COMMUNICATION AMONGST AUTOMATA^{1,2}HEINZ VON FOERSTER, Ph.D.³

For those of us who are actively engaged in research concerned with systems of high complexity and who think about their implementation and their future application, it is quite obvious that today we are in the midst of an era which provides the ideal conditions for the fast evolution of the automaton with mind-like behavior. Thus, I appreciate very much the occasion to be permitted to give you, the psychiatrist, a short report about these developments, because—I believe—in not too distant a future it will be the psychiatrists who will be confronted with problems arising from the interactions of man with his new baby, the “intelligent” automaton.

Furthermore, I hope that the discussion of these new machines and their potentialities will give me an appropriate vehicle to present some of the fundamental concepts in an interaction process commonly referred to as “communication,” concepts which, I believe, will hold for any communication process, whether it takes place between machines, beasts and man, or between all their possible combinations.

My first task in this presentation is a rehabilitation of the term “automaton.” Unfortunately, in informal discussions, but also in recent literature, journal articles and in the press, you will find the terms “automata” and “robots” freely interchanged as if they would refer to one and the same thing. This, however, is not the case. While “robot” is derived from the Czech word *robotnik*—worker, became popular through Capek’s delightful play *Rossum’s Universal Robots*, and refers to a stupid mechanism carrying out without its own initiative all that it is commanded to do, “automation” is derived

from the Greek *automatizein*—to act according to one’s own will, and thus refers to a gadget on a much higher level of sophistication. Indeed, if you care to look up “automaton” in a dictionary(1) you will find that an automaton is “. . . a contrivance constructed to act as if spontaneously, through concealed motive power.” It may be argued that this definition describes still a pedestrian gadget, because with patience and skill we may “reveal” the concealed mechanism. However, the situation changes drastically, if—for some reason or another—we are in principle unable to reveal that hidden mechanism. Under those circumstances we are forced to drop the “as if” in the above definition and we have a truly “free” system before us which acts on its “own will.” It may, perhaps, amuse you to note that Aristotle used the term “automaton” in the latter sense(2). I presume that a bad translation in the early nineteenth century of the famous passage in “*De Motu*” shifted its meaning to its weaker usage of today.

At this point you may rightly ask how such systems can ever be built. Unfortunately, a tight proof of my assertion of the feasibility of such systems would take up a one-semester seminar, thus, I hope you will believe me if I can assure you that such systems can be built, if they are made up of elementary components which fulfill the following four conditions(3):

1. The elementary component must be energetically autonomous. That is, it should not receive its energy via the information channels from other such units, but should be able to extract energy from its environment.

2. The rules by which the elementary component handles the information presented to it at a particular time must depend on earlier states of the component and also on the frequency of its use.

3. The elementary component must be able to make trials. That is, it should gen-

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erate stimuli to other units (or the system's "environment"), these stimuli being not necessarily responses to stimuli of the elementary component.

4. If conditions 1 and 3 are fulfilled, one can finally demand that the threshold for trial making be lowered, if the environment of the elementary component becomes energetically depleted.

By going carefully through this list of properties you may have spotted three important features. Number one, that these properties may well be attributed to a cortical neuron, if only some of its outstanding functional properties are taken into consideration. This should not come as a surprise, since we know that most of these two-legged admirable automata—in the Aristotelian sense—are equipped with about 10^{10} such elementary components. Number two, that condition 4 stipulates—if not explicitly—a certain "personal" or "microscopic" goal which the elementary component "seeks" to attain by its trial making activity. This goal is, of course, the maintenance of an energetically resourceful environment, in spite of the component's metabolic activity. As we shall see in a moment, this paradox is resolved by the component's ability to communicate with other elements in its environment. And, finally, number three, that I can be accused of building an automaton by using as elementary components automata. I am not going to refuse this argument; on the contrary, I wholeheartedly agree, with one reservation however, namely, that I have given the necessary and sufficient prescriptions to construct such elementary components. Indeed, there are many versions of electronic realizations of such components in existence today, from sizes of a couple of cubic inches down to about 2 cubic millimeters, and in costs ranging from \$50.00 for very sophisticated devices down to a couple of cents apiece, barely fulfilling the points mentioned above. It is, however, not the particular component which is worth mentioning here. A single component in itself has no value whatsoever. Only due to the fact that they are capable of communicating with each other are they in a position to form coalitions by which these elements can achieve jointly

what all elements separately would never be able to accomplish.

The secret behind the advantage for the individual to join a coalition lies, of course, in a super-additive composition rule applicable for communicating elements. By this I refer to the old—but unfortunately inaccurate—saying that "the whole is more than the sum of its parts." Although this statement has been under heavy attack by positivists, operationalists, *etc.*, if put properly it emerges as a most important guiding principle in the theory and technology of self organizing and adaptive systems. Properly formulated we would say today that to a set of communicating elements we have to apply a superadditive composition rule, because "a *measure* of the sum of its parts is larger than the sum of the *measure* of its parts." Consider the function Φ as a measure; then for the two parts x, y we have:

$$\Phi(x + y) > \Phi(x) + \Phi(y)$$

This equation is nothing else but my definition of a coalition being put into precise, mathematical language. If you have any doubt as to the existence of such a measure which will satisfy the above equation, I suggest, *e.g.*, using for $\Phi = (\quad)^2$, that is "taking the square." We have

$$(x + y)^2 > x^2 + y^2$$

which is obviously true, because $(x + y)^2 = x^2 + y^2 + 2xy$, hence the left hand side of the inequality always exceeds the right hand side by an amount of $2xy$. Perhaps the following biological example will make my point of a super-additive composition rule even clearer:

$$\Phi(\text{☺}) > \Phi(\text{☹}) + \Phi(\text{☹})$$

The most important example of such a measure in connection with my topic is one which has been developed in information-theory(4). It is the concept of "certainty" or, as it is often referred to, as "neg-entropy," symbolized by $-H$. One of the most important findings in this theory is that the certainty of a joint event $-H(x + y)$ is always larger or equal to the sum of the certainties of the individual events, $-H(x) - H(y)$, equality being the case only for

completely independent events. Or expressed the other way around :

$$H(x + y) < H(x) + H(y),$$

the uncertainty of a joint event is always smaller or equal to the sum of the uncertainties of the individual events. Let me illustrate this on an oversimplified example, which however, can be developed into a calculus of general validity.

Assume that there is a highly specialized physicist P, who knows only one proposition :

$$x = \text{"electrons are negative"}$$

Assume furthermore that there is a highly specialized biologist B, who also knows only one proposition :

$$y = \text{"elephants are gray"}$$

Using the conventional logical symbols v ; $\&$; v ; for "or"; "and"; "negation," respectively, the physicist's knowledge of the universe can be stated as follows :

$$x \& (y \vee y)$$

which, in words, says : "electrons are negative ; and elephants are gray or elephants are not gray."

While the biologist's picture of the universe is :

$$y \& (x \vee x)$$

which, in words, says : "elephants are gray ; and electrons are negative or electrons are not negative."

This situation of the knowledge of the two independent scholars can be neatly expressed in form of a "truth-table" associating the numbers 1 and 0 with "true" and "false" respectively for the propositions x and y and the associated logical functions as expressed above. The truth-table for the two gentlemen reads thus as follows :

		P	B
x	y	$x \& (y \vee y)$	$y \& (x \vee x)$
0	0	0	0
0	1	0	1
1	0	1	0
1	1	1	1

In other words, the physicist will always believe to have made a true statement when x is true, independent of whether y is true or false. Similarly the biologist, *mutatis mutandis*.

However, if the two gentlemen are form-

ing a coalition by establishing, say, a "Biophysical Society" the truth-table of the Society is clearly dictated by the knowledge of both scholars together and thus reads :

		Bph. S.
x	y	$x \& y$
0	0	0
0	1	0
1	0	0
1	1	1

Comparing the truth-table of the society with the truth-tables of the individuals one easily sees that the number of instances in which the response "true" is elicited for a particular state of the universe has decreased after coalition, hence the society is less credulous than the individuals, its uncertainty is diminished and it will respond with "true" only if the universe is adequately described : "electrons are negative and elephants are gray." These considerations can be expanded considerably and it is not difficult to show that with a sufficient number of elements each of which possesses only a very limited knowledge, an arbitrary degree of certainty with respect to their universe can be obtained if these elements are capable of exchanging the little bit of knowledge they possess, or, in other words, if they form a coalition by communication.

Amongst the flood of examples which could be cited in support of this thesis, let me briefly mention only the strikingly increased survival value for living organisms when associated in coalitions. The number of unicellular organisms on this planet is about of the order of 10^{17} . This is quite an impressive number if one considers that this is approximately the age of the universe expressed in seconds.

Although there are by far less insects on this globe than unicellular organisms, the number of cells which have organized themselves into insects is of the order of 10^{20} . Hence, a cell participating in a "coalition" called, e.g., "mosquito," is about a thousand times more stable than being isolated. However, these numbers are dwarfed, if we look at a cellular aggregate of the size of *Homo sapiens*. With each of us representing a colony of approximately

3.10^{15} cells, the participants of this meeting comprise more cells than all unicellular organisms on this globe, and with 10^{25} cells in "human coalitions" mankind represents probably more cells than the rest of all living organisms.

Up to this point I have only discussed the necessity for information flow in autonomous, decision making systems. I hope that I have made sufficiently plausible that a system composed of communicating automata provides each automaton with a higher payoff function—e.g., survival value—than would be possible in a mere set of automata, and also that a system of automata closely linked to each other by active communication channels—a coalition—can again be considered as a single automaton of higher complexity. However, I have not mentioned with a single word that which is communicated amongst these automata or amongst their elementary components. Indeed, what are they talking about?

It is impossible to answer this question if an automaton is considered to be an isolated entity. In order that this question makes any sense at all, we have to immerse the automaton into an environment with many possible states, or—to be more poetic—where the wind blows, the sun shines, rocks tumble, water splashes; in other words, where something is going on. In addition, we may allow this environment to contain other automata, either of the same kind or of different make-up. In order that these automata show some stability in this "hostile" environment, it is clear that they have to discover some order in this environment. In an absolute chaos their survival is questionable. When I use the word "order" I simply mean that in this environment not everything happens that could happen. In our environment, for instance, we find that most things maintain their shapes, fall downwards and do not move in zig-zag motions through space, etc. In other words, the transition probabilities for certain state sequences are very close to unity, while others are vanishingly small. This is just another way of saying that there are "Laws of Nature" and our textbooks of physics, chemistry, astronomy and so, are nothing else but a codification of these laws.

After these preliminaries on the structure of the environment it is now obvious that in order for our automata to survive, they have to crack the code of their environment's intrinsic order. This they have accomplished if they can find a solution for an internal representation of the order of their surrounding universe. Although it is to a certain degree irrelevant in which code this representation is accomplished—sequences of electric pulses, sound frequencies, black marks on a white background, wiggly grooves on a black disk, changing magnetic patterns on a flexible tape, etc.—it is of great importance that this code is shared by many elements comprising the automaton, because—as we have seen earlier—it is the joint knowledge of the elements of the system which makes the system wiser than the sum of the wisdom of its parts. This answers the question as to what is communicated: it is information about the structure of the environment of the automaton.

With these remarks I could conclude my discussion on communication among automata. However, it may be profitable to illustrate the principles presented herein with a brief allegory. In Figure 1 we have

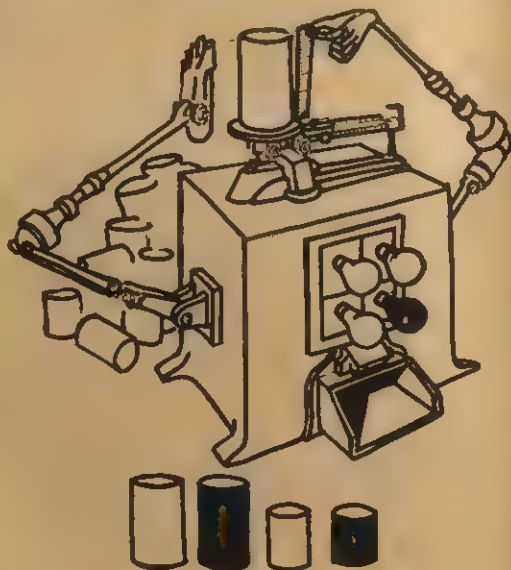


FIGURE 1

an automaton which lives on gasoline which he consumes when it is fed to him in small cans. These he can measure and

weigh. If they are too large for his consumption, or if they are too light, *i.e.*, empty, he kicks them over with his leg. Furthermore, he has four lamps arranged in a square which he can turn on and off, one or more at a time. With these he can communicate his needs. Clearly, with any of his four lamps in two possible states—on or off—he has precisely $2^4=16$ different “words” in his vocabulary. In the present state of affairs, however, these words have as yet no “meaning” whatsoever. This is precisely what we are going to teach him. To this end we have to invent some environmental rules. Let us agree on the following convention (Figure 2): the coordinates of

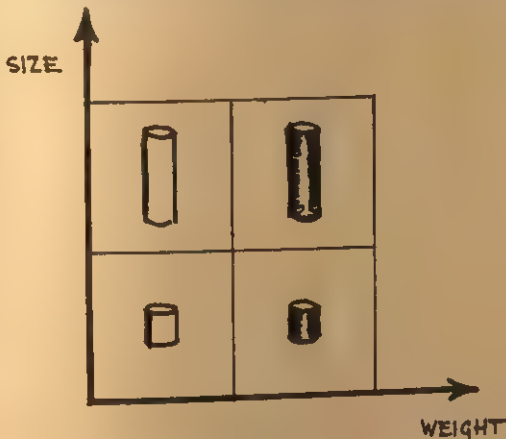


FIGURE 2

his square lamp-box are to represent upwards=size, and horizontal=weight. In other words, if he lights up, say, the upper right lamp, we feed him a tall, filled can, which he will reject, of course. Such a trial will be 100% unsuccessful. If he lights up two lamps simultaneously, say the lower left and right lamps, we will feed him with equal probability either a small empty can or a small filled can. This would make him successful 50% of the time. Clearly, what he has to learn is to light up the lower right lamp only, which causes his environment to feed him the desired small, filled can.

Since our automaton is constructed out of elementary components which follow the points 1 to 4 mentioned earlier, he will, after a series of more or less successful trials, resume the habit of turning on only the lower right lamp when hungry. He

knows now the “meaning” of this word; it means “digestable food.” At this stage it may become monotonous to feed this critter whenever he turns on his lamp. We do not gain anything by watching this device which has turned into a boring, deterministic system. However, at that instant the automaton presents us with his waste products which happens to be a chocolate bar (Figure 3). This, of course, changes the

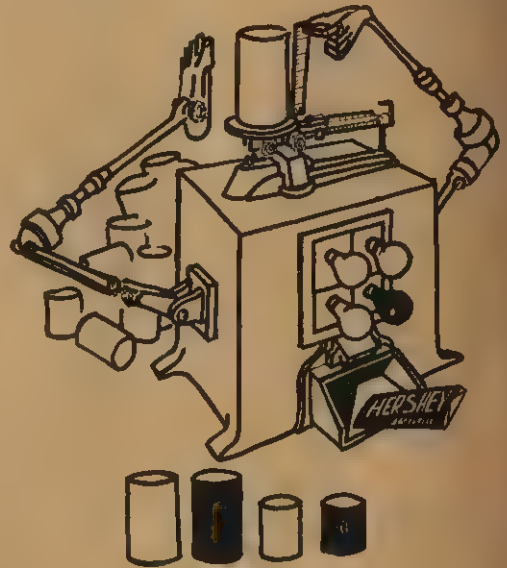


FIGURE 3

situation for us, because it offers certain advantages for us if we are going to form a coalition with this system. Again this may go on for a while—but who wants to live on chocolate forever? Thus we may replace ourselves by an automaton that can't do anything with gasoline, but who thrives on chocolate bars (Figure 4). Furthermore, this new fellow has eyes to recognize light-signals and to distinguish gasoline cans. Wheels permit him to move freely in his environment which consists again of large and small, empty and filled, gasoline cans. He, too, will learn to understand the language of our primary automaton, and he will too, after some time of adaptation, appreciate the advantages of a coalition. Before long you will see these two automata joined together (Figure 5), the one acting as stomach, cracking up the raw-products and transforming them into

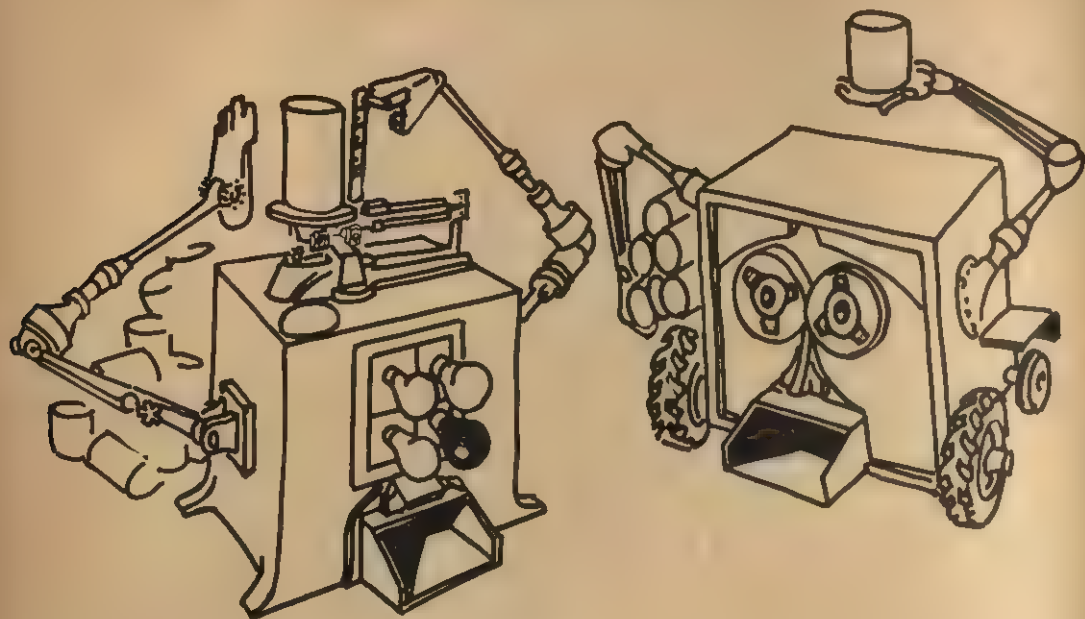


FIGURE 4

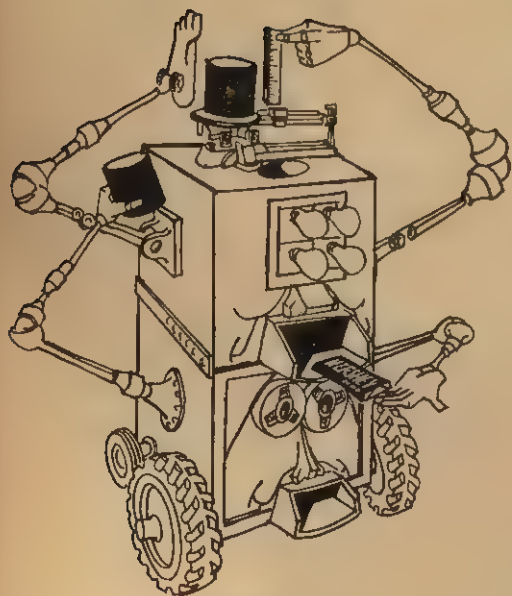


FIGURE 5

digestable foodstuff for his permanent partner, who acts as sensor and effector.

May I assure you that there exist today neither conceptual nor technological difficulties to realize such automata in mechanical and electronic hardware. Indeed, we have the theoretical and technological

know-how to construct systems in comparison to which the two characters of my little allegory would look like simpletons. Given a bit more time, I venture to say that in comparison with these future automata, even we may look like simpletons.

Since man is limited in his capacity to process information and to make complex decisions, and since man's environment becomes more and more intricate, because it is more and more defined by man's own complexity, it is not absurd to predict that within one generation adaptive, decision making automata will play a decisive role in charting the course of human events.

I am sure that most of us agree that we are today in the midst of a major transformation of the human condition, and I am convinced that in this period of transition the role of the psychiatrist will be of paramount importance, because it will be he who will have to deal with the frustrations resulting from our incapacity to communicate with these future automata.

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1959, does not use the "as if.")

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ANIMAL COMMUNICATION¹

HUBERT FRINGS, Ph.D.²

Communication involves the transmission of information from one individual to another. The degree to which information is transmitted is difficult enough to study in man, but it is infinitely more difficult to study in animals, for they cannot communicate directly with us. Perhaps the simplest definition that we could give of communication among animals is to say that one individual communicates with another when it produces some chemical or physical signal which influences the behavior of the other. This definition gives us some objective method for studying the situation, for we can detect the signal and we can observe its effect upon the behavior of the receiver.

Evidence for communication is found throughout the animal kingdom. Among the lowliest of animals, if they be animals at all, are the slime molds. These exist first as single celled individuals and later as protoplasmic masses formed by the fusion of many cells. Even with this very simple organization, however, the single amoeba-like individuals of slime molds communicate with each other by giving off a chemical material that causes them to aggregate to enter the new phase of life. At the other end of the animal scale, if we may look at it that way, in man and the insects elaborate communication systems dominate life. In general, the degree to which animals use means of communication is related to the degree of development of the sense organs and nervous system. Thus sponges, which either have no nervous system at all or have one of extreme simplicity, show little evidence of communication. On the other hand, animals such as man and the honeybee have highly developed nervous systems and communicative powers.

I might just outline the methods by which one can study animal communication, for it is obvious that one cannot ask the ani-

mals questions, in the usual sense of the word, and receive answers. In observational methods, one observes animals under natural or laboratory conditions to see whether there is any evidence that one animal is producing some signal that influences the behavior of others. Thus, we can study the behavior of the sender to see what induces this animal to produce the signal. We can study the behavior of the receiver to see how it receives the signal and what effect the signal has upon its behavior. And we can study the signal itself to see what its nature is. Another method of study, physiological in nature, is concerned with the mechanism of signal production and the properties of the receiving organs. A third method, chemical or physical, is an attempt to define precisely the actual nature of the signal. For this it is advisable to remove the individual that is sending the signal and to substitute what we might call a dummy. Visual dummies, such as decoy ducks or imitations of parts of animals, have been used for a long time. Recently it has become possible to use sound dummies, that is, recordings, and to play these back to individuals without the visual stimulation of another animal's presence. It is possible also to use pure chemicals as odor dummies. For instance, the odor given off by the female gypsy moth to attract the male can be made in concentrated form in the laboratory, and this can be broadcast to the males and their responses studied. Usually anyone studying animal communication tries to use as many methods as he can to pinpoint the nature of the signal, the means of production and reception, and finally the effects upon the behavior of both sender and receiver.

We might next ask what channels of communication are open to animals. In man, there are two main channels: visual and auditory. But these are not the only possible ones, and animals in general use all sensory channels for communication. Only a few examples of these and their uses can be mentioned.

¹ Read at the 117th annual meeting of The American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

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The tactile sense is widely used. Tactile signals act only at short range, for some sort of contact is needed, and the variety of signals is usually somewhat limited. Perhaps, however, we will find with further study that much more can be communicated tactually than seems to be on the surface. Even in man a good bit of the traditional language of love is tactile. In the animal kingdom we can find examples in almost all groups. In the coelenterates, colonial polyps, by withdrawing suddenly into protective sheaths, induce other members of the colony to withdraw. The honeybee has the most highly developed system of tactile signals that we know. Bees manage to transmit information of the most varied and intricate sort by means of dances which are received by other bees through the tactile sense.

The chemical senses, taste and smell, while used for communication to a very limited extent by man, are widely used by other animals. These have an advantage over the tactile sense in that the sender need not be in contact with the receiver: odor signals can be sent for some distance. A disadvantage, from our point of view, is their persistence. In general, the chemical material will remain for some time, and so it is not possible to have rapid alteration of the signal. This, however, may be useful if it is necessary for the sender to communicate with the receiver for some time. Almost all species of animals have characteristic species odors. These odors are left as the animals move about and are involved, in many cases, in bringing about aggregations. Here the persistence feature is of great value. Another place where the persistence feature of chemical signals is of great value, is in the case of sexual odors in which one sex notifies the other sex of its presence. Sexual odors are among the most widespread of all simple communication signals in the animal kingdom.

Animals that have developed excellent eyes use the visual sense for communication. The advantages of the visual sense are obvious. First of all, signals can be transmitted from a distance, much more so than by chemical means, and much more rapidly. Next, the signals can be varied very rapidly by changing positions of the body

or by being turned rapidly off and on. As examples of visual signals we might mention the courtship displays of certain of the arthropods and of the vertebrates. In many spiders, for instance, the males communicate their intentions toward the females by elaborate dance-like motions that are correctly interpreted by the females. Among the vertebrates, many fish display brightly colored parts of the body to identify themselves to members of the same species or to members of the opposite sex.

The sense that, with the visual sense, is most familiar as a communication channel to man is the auditory sense. Here again the value lies in features that make the visual sense useful. Sounds can be received from a distance, and they too have a high level of transience, being easily turned off and on, or rapidly varied. Among the most familiar auditory communicative signals are the songs and calls of birds. These communicate from one bird to another such important information as the locations of territories, food, or potential danger. Among the grasshoppers, the males produce elaborate songs that are received by the females and attract them for mating. Sounds may travel other than in air. Thus male web-spinning spiders, being much smaller than the females, must identify themselves to the females or the females may pounce upon and devour them. For this purpose, the males pluck at the webs of the females in special rhythms. This can be a tricky business, for the female spider is a vicious and voracious creature, and one mistake by the male in this courtship "serenade" can mean that he becomes a meal for her.

We might next ask what sort of information is communicated by animals. Here again we can deal only with selected examples. These could be multiplied a hundredfold or thousandfold, and the ones that I have selected to mention are those that seem interesting, or those that we have been studying in our laboratory.

One very important category of information transmitted by communicative signals is species identification. This allows individuals of the species to come together in aggregations, or to remain at distances from one another to avoid overcrowding.

Among the aggregational type of signals

is a chemical material called acrasin, given off by single cells of the slime molds to attract other individuals for aggregation into masses of protoplasm. The chemical nature of acrasin is still unknown, but it has the effect of attracting from some distance other amoeba-like individuals. It is, therefore, a chemical communication signal acting at the cellular level.

Barnacles tend to aggregate with members of their own species on rocks along the sea coast. Even where there may be three or four species of barnacles equally capable of populating the same rock, in general the rock will be populated by only one of these. The question naturally arises as to how the swimming barnacle larvae find the settled individuals. While the evidence is not as yet entirely clear, the most likely possibility seems to be that upon settling barnacles give off some species odor or taste that attracts other members of the same species. This is not definite, however, and the alternative possibility might be that vibrations set up by movements of the feeding appendages of the settled barnacles would be specific and that these vibrations could be received by barnacle larvae. It is not easy to investigate underwater vibrations of such low frequency and low intensity, and so this possibility has not been examined. Many other aquatic animals are known to give off odors that attract other members of the same species. The obvious advantage of such aggregations ultimately is that the sexes are brought together for reproduction.

In bees and ants, to turn to terrestrial forms, there is a colony odor enabling members of the colony to identify their fellows. Attempts on the part of individuals from other colonies to enter a beehive or ant colony will usually result, after the individual is carefully "sniffed" with the antennae, in the death of the individual. In these social insects, it is a pass-scent, rather than a pass-word as in man, that tells the group who belongs and who does not.

Somewhat the opposite situation is the maintenance of distance between individuals of the same species, called territoriality. One of the most familiar everyday examples of this is obvious to any who own dogs. These animals by marking trees and fire

hydrants with their odor notify other dogs in the community not only of their presence but also of the regions they will defend, if need be. It is a very enlightening thing to see how much neighborhood information a dog gets with its nose by sniffing the territorial markings of its fellows.

Bird songs seem to our ears to be very musical and so to reflect the bird's happiness. Nothing could be farther from the truth. These are actually territorial notifications and in a sense the bird is saying, "This is my area; if you enter, I'll knock your block off." By thus notifying other males that he will defend a given territory if they try to enter it, unnecessary fighting is avoided. Many of the lower animals show this same territoriality. We can just mention one other example. Many crabs have threat displays that they use to warn off other members of the same species. Thus fiddler crabs may use their large claws in a ritualized movement to indicate that a given spot, hole in the mud if you will, is their territory and they mean to defend it if an intruder comes too close. Once again this serves the biological purpose of avoiding unnecessary bloodshed.

The second major use for communication signals in the animal kingdom is to transmit informational bits that facilitate social behavior. These enable individuals, usually of the same species, to tell other members of the species about items in the environment of importance to the group.

For instance, food sources can be identified by means of signals. It has been known for a long time that flies tend to accumulate on food where other flies have been. This has been shown to be the result of a chemical material, called the fly factor, that is given off by flies as they feed and, when smelled by other members of the species, attracts them to come and feed also. This is quite similar to the situation in honeybees. If a honeybee finds a source of food or water that does not have an odor, the bee puts a scent from special glands on it and this persists to attract other honeybees. In both these cases, the persistent nature of the chemical signal, a disadvantage in some cases, is used to advantage.

A very interesting case of communication between different species also involves food

sources. The African birds called honey guides, by their voices and actions, notify certain African mammals, including man, that they have found a nest of bees. Once the information is transmitted, the honey guide leads the mammal to the nest. The mammal thereupon tears the nest apart to get the honey which is of no concern to the honey guide, after which the honey guide can eat the beeswax, which is what it wants, without danger. The evolution of a behavior pattern such as this makes a rather interesting problem.

An important item of information that can be transmitted from one individual to another is the presence of possible enemies. For this purpose, many animals have alarm signals which set in motion a chain of events in the group that brings about a fleeing from or mobbing of the enemy. Thus in fish, there is a material given off when a fish is injured or pursued by an enemy that has been called "Schreckstoff," which sets up an alarm among the whole group of fish.

The most intensively studied of the alarm signals have been those of birds, and we have been engaged in research on these for some time. I might therefore recount, in just a bit more detail, something about this research to indicate the types of signals that are used and the nature of the response to them.

Our research originally had a rather practical objective. The United States Air Force was interested in ridding hangars of starlings and we wondered if sound could be used to do this. While studying the hearing ability of the starling to see what sort of sounds the bird might receive, we rather accidentally discovered that a tightly held starling yelled in a characteristic fashion, and this cry caused other starlings to fly away. When this was recorded and played back as an acoustic dummy to the starlings in trees, they were thrown into great turmoil and left. If the call were played properly over a suitable period of time colonies of roosting starlings could be broken up and practical control could be achieved. This call, produced by a bird which is held or injured, is called the distress call.

This experience with starlings led us to believe that we might find distress calls of

other birds, and that these might be useful in scaring away the birds where they were making pests of themselves. With this in mind, we started to study the herring gull, only to find that, at least as far as the herring gulls we dealt with were concerned, there was no distress call. However, when free birds flying in the air saw a gull being held, they gave forth a characteristic, staccato alarm call that caused other herring gulls in the neighborhood to fly up and gradually to disperse. At the same time, we found that the gulls have a fairly sizeable language, for birds. Among other calls, they produce a food-finding call when they find a rich source of food, and this attracts other gulls to the neighborhood. These two calls allowed us to test whether or not the broadcast of alarm or distress calls caused the dispersal of the birds merely because of the loudness of the sound. We found that the food-finding call, which was attractive, attracted even when it was broadcast at a much higher intensity than the alarm signal. Obviously, these special sounds are transmitting information, just as human speech does.

Another bird which has run afoul of man and is considered a pest is the crow, which we next studied. As one would expect, this wary bird has a whole series of signals, some of which, for example the ordinary cawing, seem to be for maintenance of social contact at a distance, and others of which notify the crows of danger. An interesting call of the crow is the assembly call which an individual may give when it sights an owl or hawk in the daytime and which causes many crows to come and mob the unwanted individual. When we recorded this and played it back in the open fields we found that crows would come from miles around to try to find the intruder. Crows have a variety of alarm signals, including some that are visual, but they also have one that is auditory, and when a recording of this is played to them they fly away. There are many other signals, but we have not had the opportunity to study all of these so far.

It was while studying the signals of crows that we found that birds may have dialects, that is, birds of the same species may have slightly different sets of signals in different

places. For instance, the herring gull in Maine has signals which are not understandable to gulls of the same species in France or Holland. Interestingly enough, sometimes there is a certain degree of understanding from one species to another. Thus, while the American crows do not ordinarily understand their French cousins, the French crows do respond to the American crow signals. This difference in response seems to be due to the experience of the birds. If the birds have fraternized with individuals of other species, they learn to understand the other species' language, or they come to respond to the more general features of the calls rather than the specific features, for all alarm calls and all distress calls have something in common. The situation is much like that in man, in which an individual who hears only his own native tongue spoken at one place may understand only that particular dialect, while one who has learned a few foreign languages may find himself able to understand a new foreign language, in part at least, simply by picking up general meanings.

Another large class of social facilitation signals includes those used for guidance. Among the best known of these are the dances of honeybees. A scout bee on returning to the hive after having found a source of nectar moves about on the comb in a rapid dance-like movement that informs the other bees of the distance and location of the food source.

If the food source is within approximately 50 meters of the hive, the bee will perform what has been called a round dance, going round and round in circles. Before returning to the hive the bee has rubbed itself in the nectar-containing flowers to pick up the odor. The other bees in the hive merely sniff the scout bee, fly out in concentric circles, and find the food source. Since this is within 50 meters they do not have to fly far. However, if the food source is farther, flying in a spiral course would be very inefficient.

In this case, the scout bee does another sort of dance, the so-called waggle dance. The bee runs in a straight line for a short distance wagging the abdomen, then returns in a semicircle to its starting point and

runs again in the same wagging course. The direction to the source of nectar, in this case, is indicated by the direction that the honey bee runs on the hive. The horizontal direction is converted into a symbolic vertical direction. The distance to the food source is indicated by the number of waggles that the bee makes with its abdomen. The nature of the food source is indicated by the odor of the bee which again has rubbed itself in the flowers. The value, if we could call it that, of the food source is indicated by the persistence of the bee: if the nectar source is rather poor the bee will persist for only a short time, but if it is rich the bee will persist for a long time.

These same dances are used also by swarming bees for the scouts to indicate to the swarm the direction to a new home. This is mostly a tactile form of communication with the chemical senses also involved, and a great deal of information is transmitted.

Possibly the most interesting and spectacular communication mechanisms are used in reproduction. Information is communicated at all stages in reproduction, between the sexes and between the parents and young. Since the reproductive process is the bridge from one generation to another, this is one of the most important uses for animal communication.

In a world that to many animals is almost infinitely large, the attraction of the sexes to each other for mating is a risky and hazardous business. Yet only by the attraction of the sexes and the passing on of the reproductive material from one generation to another is it possible for the species to continue, and only by these means is it possible for those changes in the species which make evolution possible to be transmitted. In the evolutionary process, it is not only the ability to live that counts, it is the ability to transmit genetic information from one generation to the next. So any means by which the sexes can be brought together, particularly if this has some selective value, is going to be of first importance in evolution.

There are literally thousands of cases of identification of the sexes by communication signals that could be mentioned. Many insects, possibly almost all, use odors at

some stage of the reproductive process as a means for sexual attraction and identification. Many female moths give off odors that males are capable of receiving at long distances, up to a couple of miles. Upon receiving these odors, the males are able to follow them to the females, apparently sensing minute differences in the concentration of the chemical. One need only turn on a light after dark on some spring evening and watch the hundreds or thousands of tiny insects, including moths, that swarm to that light, to realize how important it must be for these insects to have some means of finding each other in this vast world.

Insects also use vision for identification of the sexes. Thus, the well known fireflies or lightning bugs flash to each other and identify themselves. The females are usually wingless and are on grass blades or bushes, while the males fly about. When a male flashes, a female answers with a flash, and so the male can find her. Some butterflies, which are active during the day, use their brightly colored wings to signal to each other. The marks on the wings enable the sexes to identify each other.

The communication signals of insects that are most obvious to man are the sounds produced by many of them, particularly crickets, grasshoppers and cicadas. One might not think that the whining of the wings of a female mosquito is also a sexual signal, but it is. The male mosquitoes are attracted by this sound and induced to mate. Since the females of different species have wings of different sizes and move them at different rates, the sounds that they produce are different, and thus the species are sorted out.

Among the most elaborate of the sound signals produced for getting the sexes together are those produced by katydids and grasshoppers. Some of these have pure tones, some have mixed tones, many have elaborate rhythms. It is the males that sing in these cases and the females that respond. We have been studying these for some time and have been greatly intrigued by the complicated patterns of song that we find among these insects. A very interesting facet of behavior in this case is the fact that the songs of the males are influenced by the temperature around them. Thus, as the

temperature goes up, the males sing more rapidly. Interestingly enough, the female is tuned, so to speak, to the correct song at the correct temperature. A female at 25° C., for instance, will not respond to the recorded song of a male of her species at 15° C.

Frogs and toads are also famous for their songs, and, in this case also, the males call the females. The male frogs or toads come to a pond or stream where the eggs are to be laid and set up a chorus of special calls. In general, each frog and toad can be identified by its call just as well as by its body form. The females hear the calls and are attracted to the correct males. Interestingly enough, in many cases a male will seize and try to mate with anything that comes close to him. In nature this is all right, because the only individual that is attracted to him by his song is the female of his species. Frogs and toads too may have what we might call local dialects, local differences in songs in different parts of the country.

A popular book calls the underwater world the silent world, but we are now beginning to appreciate, through the use of special receivers and tape recorders, that the underwater world is by no means silent. Male fish of some species make a thumping sound that is related to their mating. Many other fish are now known to make sounds, and some of these will answer recordings of the sounds. It seems quite probable that these too are involved in the identification of the species and the attraction of the sexes, but much more work is needed before we can be sure.

Once the sexes have been brought together, it is often necessary to have clear-cut identification and to have the two brought into relation so that they can mate. Thus, when close proximity is achieved, there is often a shift from an attractive signal to courtship and arousal signals. Here too the examples could be legion.

In mammals, the male and often the female display for the member of the opposite sex and actually thus bring about an arousal of interest in mating. These displays are chiefly visual and tactile. Many crabs identify themselves to members of the opposite sex by displays. Male fiddler crabs

use the large claw and move it in such a way that the female can identify the male of the correct species. Some crabs and lobsters are able to produce sounds by scratching one part of the claw against another. Possibly the most amazing method of sexual arousal is used by land snails. When two sexually active snails have been attracted to each other, possibly by scent, they approach and each one shoots into the other a little pointed dart-like structure, the love-dart, that contains a hormone-like chemical arousing both to mating condition.

The release of eggs and sperms is often accompanied by release of communicative materials. These are particularly important for animals in which the sexes do not actually come together for mating. For instance in many marine animals, such as jellyfish and mussels, spawning is induced by the presence of materials from members of the opposite sex. In some mussels, the males release sperms which, when taken in by the female, induce the female to release eggs. This has obvious biological value in assuring that the eggs and sperms are present at the same time.

In animals with a parent-young relationship, many signals are used to facilitate this relationship. In birds there is a large vocabulary of calls used by the parents to notify the young of danger or of food. In mammals, notification is given by the young mammal of its needs and notification by the parents of danger or food. The family is knit together by an intricate network of visual, chemical and auditory signals.

A fascinating case of communication from one generation to the other, in which the older generation is already dead when the young receives the information, has recently been reported. In this case, a female wasp, which lays an egg in a hole drilled out of a stem, indicates the direction the young wasp is to take to come out by making one end convex and the other end concave, one end rough, the other smooth. The young wasp hatches from the egg after the mother is dead and develops through a long larval period before it is ready to emerge. At that time, it uses its antennae to feel the ends of the cell and, having located the correct form of the end by its sense of touch, for

it is entirely in the dark, it gnaws through and emerges at the correct place.

One of the most intriguing aspects of the study of animal communication, as it is of the study of human communication, is the determination of the accuracy or efficiency of communication. How much information can be communicated, and how well? In most cases we are just beginning to learn a little about this, as far as animals are concerned. Indeed, even for man, we have a long way to go before we will know what the efficiency of communication is under the many circumstances in which man tries it.

It is interesting to note that, in general, man's communication mechanisms are designed best for qualitative information. Insect communication, on the other hand, is often best adapted for quantitative information. Thus the honeybee is not so much concerned with communicating merely that there is or is not food, but is more concerned with communicating distance and direction, two quantitative, almost infinitely variable items. The bee uses two uniformly variable communicative channels: the direction of running on the honeycomb, which can be varied almost infinitely within a circle, and the number of waggles of the abdomen, which within wide range can also be varied uniformly. The difference in the objectives of communication between insects and man can lead man, if he tries to think of insects in human terms, to believe that the insects are not communicating as well as they might. Given the relatively few channels available for communication in many insects, the amount of quantitative information transmitted is much greater than man could transmit with the same limited channels.

Animals may have trouble in communication, as man does, through having dialects. Local populations may develop special communication signals which are understood only locally, thus cutting them off from other members of the species. Herring gulls and crows, as already noted, develop dialects across large continental areas or where they are separated by bodies of water. Among the insects, some crickets may develop characteristic rates of chirping which can cause a population of crickets otherwise similar in appearance to be

divided into two subpopulations each with its own communication signals. Actually, this can be of tremendous importance in evolution, for, just as separate species signals keep different species from interbreeding, separate dialects within a species may allow subspecies with certain characters of high survival value to keep these characters within themselves and thus gradually to replace other less viable subspecies.

While dialects can cause isolation within a species, cross-reactivity may cause confusion between species. By cross-reactivity we mean the development of reactions by individuals to the calls not only of their own species but to calls of other species as well. Thus, in our studies, we found that while generally crows and gulls responded only to the calls of their own species, where herring gulls and crows fed together, they often learned to understand each other's language. The communication, however, was mostly in the nature of alarm and food notes and would not lead to confusion in reproduction.

There are many persons who have viewed animal communication, particularly that of insects, as being relatively inefficient, because insects will respond to crude visual dummies, or to a wide variety of artificial sounds that, to man, are not like the insect sounds. Thus, we were able to attract swarms of little flies to a loud speaker by playing certain pure tones. However, in many of these cases, it is quite possible that the artificial sounds have some characters of the natural sounds which the insects are already using. It is not enough to say that they do not sound like this to us, for the sounds used by insects often have such short pulses or are of such high frequencies that the human ear misses the important parts of them. We must be constantly on the alert in this study to avoid the trap of thinking that, because a signal has a certain look or sound to us, it actually looks or sounds the same to an insect.

While it might seem from the examples that have been cited that a great deal is known about animal communication, biologists are actually just beginning to study this scientifically. Many of the examples are observations merely indicating that communication has taken place and giving

some idea of what is being communicated. It is now for us, using modern equipment and methods of study, to try to discover what is being communicated and how it is being communicated: to study the methods by which senders send messages, the methods by which receivers receive messages, the nature of the signals themselves, and the effects upon the behavior of sender and receiver. The future for students of animal communication looks bright and full of work.

We might just mention some specific lines of future research. First, the analyses of the signals and the study of the sense organs in relationship to these signals. The question here is whether the receiving organ of an animal is automatically tuned to its signal, or whether the animal receives all signals of the same nature, for instance all sounds, but sorts out the ones that are of importance to it. If it does sort, how does its nervous system do the sorting? If it does not sort, how is the receiver tuned?

Many of the signals used by insects are outside of the range of man's sensory system. Thus, some insects see ultraviolet light and smell water. Many grasshoppers produce and receive ultrasonic sounds. Honeybees and some other insects distinguish the plane of polarized light. None of these can be done by man with unaided sense organs. This creates a hazard for man in studying these signals, for he may be misled as to their nature because he cannot receive them. But it is also a challenge, for many of these signals are used to transmit information in ways that man cannot. It is not too much to hope that we may learn, from studies on the signals and receivers of insects and other animals as well, new means of communication and new ways of coding information.

Another line for future research is the study of the essential features of the signals. We have already noted that some animals respond to artificial signals that to man do not seem to be at all like the natural signals. This may simply mean that we, with our receiving organs, even with our analytical equipment, are not able to detect the essential features of the signals. To say that we can play a tape recording of a bird's call backward and get the same re-

action from the bird as when we play it forward does not necessarily mean that the bird has poor powers of discrimination. It might simply mean that, since under natural conditions the signal is not given backward, the essential features of this signal are the same either way. It could be that what we are hearing, seeing, or feeling may have little relationship to what is really giving the information to the animal. Once again, studies in this field may yield unforeseen practical benefits to man in his own communications. Insects, for instance, not only produce complicated signals, but they do this in what is almost minimum space, often with minimal equipment. With our new interest in miniaturization, it certainly behooves us to study these tiny producers and receivers.

Finally a personal word. One of the thrills of research in this field is the unpredictable nature of the results. It is impossible in most cases to set up an experiment from beginning to end and know what

is going to happen. I might just mention one case. We recorded the distress call of the cottontail rabbit, thinking that possibly by broadcasting this to rabbits we could chase them from gardens. With no rabbits available for the test, for it was midwinter, we thought that possibly this might attract foxes. On playing the signal, however, it was not foxes that were attracted, but owls. These were small owls and could not have attacked a rabbit, so it is hard to see what in the signal was attracting them. It simply means that we do not know what in the signal is carrying information, and because of this one finds that it is very difficult to predict what is going to happen.

For those who like their research neat and tidy—plans, results, computations, all foreseeable—this is not the field. For those who relish the possibility that an experiment elaborately set up to give one set of results will give an entirely different set of results, much to their surprise, the field holds tremendous fascination.

HUMAN COMMUNICATION AND THE PSYCHIATRIST¹

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Human communication is concerned with all the procedures by which one mind may affect another(35). This involves not only speech but also the other forms of non-verbal and action behavior which people use to influence one another(32). But in spite of the central role that communication plays in our lives, the origins of language and speech are somewhat obscure. The earliest remains of our material culture consist of crude articles of stone which date back 500,000 to 1,000,000 years(34). Although we can surmise that at that early age people may have signaled to each other in some meaningful way, it is not until the appearance of Neanderthal man that signs of the presence of speech and communication become more convincing. The middle paleolithic period, ranging from 150,000 to 75,000 B.C., produced outspoken flint points, a bone industry, and burial grounds. These findings together with evidence of the use of fire betray the existence of simple social institutions which presuppose man's ability to communicate(12). However, the space on the floor of the jaw where the tongue muscles attach was small, and we must infer that Neanderthal people could not talk much or too well(17). Speech and language as we know them today are tied to the *Homo sapiens* group, which appeared during the fourth glaciation, within the last 50,000 years. The engraved tools and cave paintings that prehistoric man left to posterity remove all doubt about his ability to cope with complex symbolic systems(5).

The inferential evidence from which the evolution of communication has been reconstructed gives way to direct evidence with the appearance of the cuneiform writing of the Sumerians. These people, who lived in the Mesopotamian Valley between 4,000 and 300 B.C.(22), share with the Babylonians and Assyrians the honor of

having devised the pictorial system of denotation. Thus roughly 6,000 years ago man was able for the first time to store information and to codify his knowledge in writing. This undertaking was facilitated around 2,000 B.C. when the people living near the Tigris, the Euphrates, and the Nile developed phonetic denotation, a system later refined by the Phoenicians and the Jews. If pictorial writing is termed the first analogic codification device, phonetic writing may be called man's first digital codification system.

The history of communication in the three millennia from about 2,000 B.C. to 1,000 A.D. was characterized by the development of calligraphy, writing materials, and shorthand codes, and the establishment of distance communication through the use of messenger services and fire and smoke signals(7). In this period, writing was monopolized by specialists, usually priests and scribes, who in turn became the guardians of man's cumulative body of knowledge. The invention of the printing press—in China in the ninth century and in Europe in the fifteenth—broke this monopoly and laid the foundations for the development of mass communication. In the eighteenth and nineteenth centuries, finally, the invention of the telegraph, telephone, and radio enabled people to transmit messages instantaneously over long distances. And in the twentieth century, television and sound movies firmly combined visual and auditory recording.

While the prehistoric development of communication must have been governed by biological determinants, the more recent advances have been dictated by technological progress(24). The earliest engineers were interested in the transmission of force. Levers and wheels were known in antiquity, but the sources of energy were muscular. Correspondingly, the early communicators were interested in the transmission of information by means of speaking and writing. During the Renaissance, the introduction of gunpowder and the clock shifted the interest of technologists to the

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problems of storage of energy; and in the field of communication this found its repercussion in the appearance of printed books. The advent of steam, combustion, and electrical engines was the result of man's successful transformation of energy, which in the field of communication found expression in the invention of the radio and the telephone. In the twentieth century, finally, communication engineering and industrial technology merged. Manual control of machines was replaced by steering through information, and automation became a reality.

In all periods of history, technological effort has been directed at building extensions of or replacements for the motor, sensory, and decision-making organs of human beings. Power tools multiplied the efficiency of our hands and legs; sensitive recording devices overcame thresholds and tolerance limits of our sense organs; computers amplified our memory and speeded up our scanning ability; and a combination of these complex input, output, and decision-making machines helped men to conquer space and bridge time.

Each fundamental advance has been accompanied by profound psychological and social changes in the lives of people. The invention of labor-saving machines, for example, did away with muscular movement as a source of energy and led to the abolition of slavery. The introduction of mass production required the education of potential consumers; people had to learn to read the mass produced books and they had to learn to operate the complex gadgets that were being put on the market. The introduction of radio and television brought about a change in consumer habits and political attitudes. The possibility of influencing and manipulating people from a central source was exploited for political and commercial purposes. The result was not only a gigantic leveling of differences among people and products but an elimination of the checks and balances which previously prevented rapid change. If people are coaxed into wanting the same product or engaging in the same action all at the same time, stock market crashes, political mass movements, and prejudicial decisions are almost unavoidable(18).

Mass communication also has been associated with a subtle change in human relations whereby person-to-person communication is being replaced by station-to-station communication(25). Today, messages are no longer addressed to a person with a specific identity, with a name and address, but to the holder of an office, the occupant of a dwelling, or the director of an organization. The universal credit card system introduces a third party into the customer's relationship to the merchant; government and insurance companies are interposed between doctor and patient(29). Even the contents of messages have become standardized, and stationery stores are supplied with "canned messages" printed on cards and designed for every conceivable occasion. The depersonalization of human relations has in turn deeply influenced people's character structure. Bellak(3) sums it up by saying that persons born before World War I were known as the dedicated generation; then came the angry and confused generation; and now we have the uninvolved generation.

Standardization and elimination of the identity of the participants in the modern social setting is reinforced by one of the basic shortcomings of mass communication: the audience is prevented from replying on the spot. In mass communication, messages conceived by a few are beamed to the many. The receivers outnumber the senders by thousands or millions, and this asymmetry in the system prevents corrective feedback. The delay in time between broadcast and reply exerts a distorting effect; and if a reply does arrive, the issue under discussion may have been superseded by a more urgent problem. Technology and social progress are strange bedfellows. Our culture has first educated the lowly slave, elevated him to the dignity of an individual, and given him an identity, only to drive him back, with the help of mass communication, into another kind of anonymity. In a way, modern servitude distinguishes itself from ancient slavery in that the whip of the master has been replaced by brainwashing through mass communication, and laboring for the landlord by indenture to the state or the finance company(16).

Let us now examine how the modern

emphasis upon communication has affected the field of medicine. If contemporary man is committed to the triad of technology, mass communication, and social progress, it is well to remember that these attitudes deeply affect his views of health and disease. According to Rieff (26), the Western concept of illness has been influenced in succession by politics, religion, economics, natural science, psychology, and business administration. Western civilization's political man originated with the Greeks, who believed that the health and stability of the person are dependent upon the political order. In this way, Plato contributed to the modern welfare state. Our civilization's religious tradition originated with the Hebrews and early Christians, who advanced the idea that faith is superior to reason. This attitude is still found in the Christian Science movement. In the eighteenth century, the American and French Revolutions signaled the advent of our economic schemes which imply that gratification of bodily needs indirectly satisfies the higher needs. This view is embodied not only in public health practices but also in the tendency of government to combat dissatisfaction by raising standards of living. The nineteenth century brought us the great advances in science and biology which not only changed the shape of the earth but began to eradicate disease and increase longevity. The twentieth century brought us the psychological emphasis. Essentially sophisticated but anti-intellectual, psychological man believes that insight and inner experience are a means of achieving health and well being. And now that we are past the midcentury mark, we find in our midst the organization man (38). Not only does he coordinate production with consumption to make technological achievement possible; he also introduces bureaucratic practices that stifle effective work. No longer committed to any subject matter, he is a "how to do it" man who organizes with the same ease a military unit, a government agency, or a scientific society. Organization of health services is his contribution to the eradication of disease.

This, then, is the way it appeared to Jaspers (15) in 1931 :

... patients are now dealt with in the mass ... being sent to institutes for technical treatment, the sick being classified in groups and referred to this or that specialised department ... Medical treatment has now become a sort of manufactured article. An attempt is made to replace personal confidence in a physician by confidence in an institution. ... A gigantic "enterprise" of medical practice is arising, in the form of institutions, bureaucracies, a codified system of material achievement. The inclination to apply a new, a newer, the newest method of treatment to the majority of patients coincides with the ... will of those who contend ... that they can bring healing to all. "Enterprise" has taken the place of individualised care.

Beliefs and viewpoints of the past do not vanish when a new generation takes over. As the older attitudes lose their outward identity, they silently and automatically are embodied in the cultural orientations of succeeding generations. Together with the existential propositions of living (8) which originate in the appraisal of contemporary conditions, the cultural orientations guide decision-making and action. But neither of these two guideposts of living are amenable to scientific testing. Thus we come to the interesting conclusion that at the base of all scientific and engineering ventures we find cultural orientations and existential propositions the truth of which can never be established. Instead, their validity is an expression of agreement and depends upon belief (31). We in the Western civilization are committed to technology, mass communication, and social progress. These values are reflected in our notions about health, illness, the care of the sick, and the study of human behavior in general (13, 33).

In order to understand the role of communication in the behavioral sciences, we have to distinguish among three somewhat differing fields. Cybernetics is "the science of control and communication in the animal and the machine" (39), or the art of steersmanship (1). Information theory is concerned with the statistical and quantitative aspects of information and the technical ways in which information can be coded. The theory of human communication (31) is primarily concerned with the sources and destinations of messages—that is, the persons that send and receive messages. Hu-

man communication owes much to cybernetics and information theory. So far, an essentially theoretical body of knowledge has been developed which covers topics such as the characteristics of the observer in scientific and social systems(27), perception(6), psycholinguistics(21), language and speech processes(19, 20), codification systems(7), and interpretative devices(31). Appreciation of the concept of feedback (40) has taught the student of behavior to be more operational and has given him the opportunity to break down the organized complexity of human behavior into patterns that lend themselves for analysis(9) and model construction(1). By focussing upon the message exchange instead of upon people, scientists have been able to view psychological and social processes in circular rather than in linear terms(39); and the attempt to develop general systems theories indicates the convergence of psychological, biological, and social approaches to behavior(4). Communication as a field of inquiry now stands side by side with the other functions of the human being which, like locomotion, circulation, and digestion, have rated to be studied by specialized disciplines.

But a note of caution is here in place. Many of the concepts of the communication engineers cannot be applied to the human situation. Noise, for example, cannot be identified in face-to-face relations because we cannot separate the intentional signals that emanate from a person from the accidental signals that arise in the surroundings. In face-to-face communication we deal with multiple channels of transmission; these are not discrete, and their capacity is unknown. Also, we cannot determine the set of possible messages in any given situation; the amount of information transmitted hence is unknown and information theory is hardly applicable. The concept of entropy likewise cannot be applied because in human relations we deal with identified persons rather than with unidentified particles upon which the laws of thermodynamics are based(10). The mathematical and scientific theories of communication never deal with content or the ways human beings experience events. Instead, they refer to quantitative and formal aspects of commu-

nication(23).

If we were to use an analogy, we might compare a communication system to a railroad with its traffic network and control devices. While the engineers would concern themselves with the total capacity and actual passenger load, the identity of the passengers who travel on the road would not be of interest to them. Correspondingly, communication engineers are not interested in the identity of the symbols, their meaning, and their interpretation. This present state of affairs in no way precludes the possibility that if in the future we are able to learn more about the human organs and the characteristics that deal with input, evaluation, and output, we might establish a truly scientific theory of human communication which would include meaning and interpretation. But until then we have to argue by analogy and rely upon the age-old method of asking the participants to report their experiences. Thus, in spite of great progress in communication engineering, there has been little change in face-to-face communication since the beginning of history.

The development of a science of human communication led various psychiatrists to explore the role of communication in mental disease. The investigators discovered that what was called psychopathology was nothing but a collection of observations pertaining to normal and disturbed communicative behavior. They also learned that if they focussed upon the message exchange rather than upon hypothetical intrapsychic processes, their generalizations remained closer to the original empirical observations(2). If one accepts the thesis, that action is governed by information, then one must assume that exchanges which result in deviant information must lead to deviant action. The psychiatrist's focus of interest thus has turned away from deviant action and towards erroneous information, which can develop for a number of reasons. In the individual, disease or malformation of the organs of communication may distort the functions of perception, evaluation, and expression. Insufficient or erroneous learning may lead to unsatisfactory mastery of language, interpretative, or corrective devices which in turn contributes to unsatisfactory

human relations. Incorrect information also may be acquired directly by selective exposure to one-sided situations or by contact with disturbed persons (28).

But there exists another source of disturbed communication. If all participating members in a social network are healthy and do not show signs of intraorganismic pathology or retarded growth, disturbed communication may develop within the group (14). If, for example, within a larger network the feedback devices do not work properly, an individual or a coalition of persons may set up a separate network. Through the creation of a new system with different rules, feedback circuits, and codifications, a boundary is established which may interfere with the larger network. In the course of this group conflict, the individual may suffer. And, finally, if the communications of one person or group are not responded to by the other person or group, the two bodies do not establish a common feedback circuit with self-steering properties and conflict may be the result (28).

Communications research in abnormal behavior thus can be summarized in one sentence: when messages are too intense or remain below the threshold, arrive too early or too late, or are inappropriate to the action and situation, disturbances of communication may arise. Under any of these conditions, the feedback mechanisms break down and the information held by the patient becomes erroneous. Let us now examine how our contemporary preoccupation with communication has influenced the therapeutic procedures of the psychiatrist. Whatever technique the physician may use to rehabilitate his patient, his presence always exerts a therapeutic or a damaging influence. In any procedure, the physician invariably influences either the human instruments of communication, as in psychosurgery, electroshock, and drug therapy, or the communicative responsiveness of the patient, as in the psychological and social therapies. In the latter type of approach, the therapist is capable of exerting his influence because the human being is a herd animal who, in order to function properly, must at all times be able to orient himself, to perceive the effects of his actions,

and to maintain communicative contact with other members of his species. From such contact, the individual derives not only emotional satisfaction but also the much needed corroboration or correction of information. Relying upon this built-in desire of the individual to seek contact, the therapist exerts his influence through three fundamental processes: understanding, acknowledging, and agreeing. Understanding involves the establishment of an accurate model of the patient's behavior in the mind of the therapist. To be understood is rather pleasant. Acknowledgment refers to the response of the therapist regarding receipt of the patient's purposive or involuntary messages. To be acknowledged is even more satisfactory. Agreeing implies the isolation of a certain aspect within the universe of discourse and the establishment of corresponding views or opinions. To reach an agreement is most satisfying.

To the three powerful processes which are characteristic of communicative behavior in general, the psychiatrist may add other procedures to influence the patient. If the psychiatrist believes that the patient's condition is the result of personality conflicts, he will use one of the insight-producing methods. These procedures, which have been worked out by psychoanalysts and psychotherapists, rely upon interpretation of dreams, daily life actions and errors, and free associations. If the psychiatrist believes that the patient's condition is principally related to misunderstandings, disagreements, or social conflicts, he may add to the above-mentioned procedures actual intervention and interviews with other family members in an attempt to restructure group relations. If the patient is immature or socially inept, the therapist acts as a teacher, guide, and manager so that the patient can learn in the therapeutic situation and elsewhere the necessary skills of communication. And finally, if the patient's condition is marked by anxiety in the face of unalterable somatic, physical, or social circumstances, understanding of the patient's experiences, encouragement, and hope may help to reduce his apprehension and thus render him capable of accepting the inevitable.

If there exists complete agreement among both lay people and professionals that com-

municative relatedness is a basic requirement for human development and well being, the opinions are divided as to the therapeutic effectiveness of communication. The results of communication are exceedingly difficult to evaluate. While it is clear that solitary confinement is one of the severest punishments that can be inflicted upon human beings, the reverse—namely, abundance of communicative contact—does not necessarily contribute to well being. Only if communication is meaningful and has emotional relevance, does it exert an effect; otherwise, communicative contact becomes a burden. Inasmuch as emotional relevance is an experience, it can be appraised only by the participants and is not accessible to the scientific observer.

Another difficulty which stands in the way of appraising the therapeutic effectiveness of communication is the evaluation of clinical improvement. As of today, there does not exist a proper methodology for the evaluation of mental health. Psychiatric therapies are assessed through comparison of such crude criteria as death, admission and discharge rates, length of hospitalization, and status of employment(36).

In the absence of objective criteria of evaluation, professionals have used their personal experiences as data for the construction of a variety of theories. The usefulness of communication in therapy has been conceived of as follows:

—In the theory of free access to the unconscious(11), elimination of discrepancies between consciously and unconsciously held information and removal of resistances that interfere with awareness are said to influence the patient beneficially(37).

—The theory of symmetry of information holds that tension and uneasiness in the individual decrease when information is shared with other individuals; or, to put it into more scientific terms, the more symmetrical the information between two persons becomes, the less likely it is that disruptive behavior or tensions will develop.

—The theory of the correct model presupposes that communication corrects an individual's knowledge and makes his information conform to the actual state of events. A correct model of the world is supposed to assure better control over actions and

events.

—The theory of stimulating man's anticipatory behavior maintains that the establishment of faith and hope and concern with the future are the therapeutically effective agents.

None of these theories can be proved or disproved. As a matter of fact, one can make a good case for their opposites: unawareness, secrecy, incorrect views, and absence of hope all can at times be equally therapeutic. Thus we have to abandon the idea that single features embody the therapeutic principle and concern ourselves with more complex patterns which include such aspects as context, sequence, and time. In reformulating the older notions of therapeutically effective features, we arrive at the following:

—Neither conscious nor unconscious experience matters so much as the interrelationship between both, so that in succession old memories and recent experiences can be rotated for closer inspection through consciousness. When this rotation process does not operate, difficulties arise.

—Neither symmetry nor asymmetry of information matters so much as the rhythm in which one follows the other. Too much symmetry or asymmetry, or too long a time duration for either, may be equally contributive to a breakdown of communication.

—The model of the world has to be correct only in those areas that are accessible to testing. Unless a person upholds some unrealistic folly and believes in some kind of magic—always in areas not accessible to testing—he is unlikely to survive for long.

—Man's anticipatory behavior can be excessive or diminutive, both deviations being disruptive. Again it is the sequence and rhythm in which they follow each other that determine mental health.

Therapeutic communication(30) thus can be viewed as a regulatory process. When a disturbed patient is introduced into a communication network, the therapist and other persons exert a regulatory influence. The participants amplify or reduce quantitatively deviant messages of the patient, alter the timing, rearrange the sequence, and influence the rhythm of the exchange; meaning is clarified, and interpretative de-

vices are mastered. All this is an art which has to be learned through experience. As therapists, we are grateful to our colleagues, the scientists and communication engineers, who have made it possible for us to explain more satisfactorily the processes that people use to influence one another. But in spite of all the communication machines that have been invented in the last two hundred years, the difficulties of communication existing between human beings are with us just as they were several thousand years ago. This, however, should not deter us from hoping for the better.

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PITFALLS IN PSYCHIATRIC RESEARCH¹

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Like all endeavors subject to scientific scrutiny, investigation and experimentation, psychiatric research *est divisa in partes tres*: discovery, verification and communication. The major effort is generally required in the second and usually much too little is devoted to the third. Though the mechanisms and ground-rules are not uniform for all three, sources of error, confusion and frustration abound throughout. Such pitfalls may be largely, if not altogether, avoided, lest the fruit of research be thereby hidden and wane sterile.

There are, of course, no set rules for scientific discovery, and only one basic principle: impartial, unbiased and accurate observation. In the alleged episode of the apple, Newton was able to perceive the concept of one universal attracting force because his mind, at the moment, was merely observing and not trying to read preconcepts into the observed events. Most important discoveries have resulted from the application of this principle; many have sprung from serendipity and few have come from intent. Becquerel's discovery of gamma radiation(1) is a prime example of serendipity. Indeed accident has been a greater purveyor of new facts, at times even forcing them on our detuned, inattentive minds, than many elaborate, ponderous, sophisticated and frequently tenacious programs of exploration. It is also obvious, however, that "accidental" discovery cannot be attributed solely to alert and unbiased observation. Unconscious cogitations and even uncorrelated unconscious data may be triggered into an act of discovery by outside events. In this sense, unbiased observation or, so to speak, "observational free association" certainly would seem the best psychic condition to facilitate activation of unconscious data. The potentiality for error in a process at this level is obviously great and must be emphasized. Discovery, by

whatever means, is obviously of paramount importance, and the need for alert, unbiased observation so patent that further discussion becomes unnecessary.

Any new discovery, however, major or minor, total or partial, which is phenomenologically manifested, requires interpretation after it has been verified. Once a phenomenon emerges, there are certain procedures, uniformly recognized as valid by all the determinate sciences, which form the body of the methodology of verification and communication. Such procedures are the backbone of scientific research techniques. Though their enumeration is beyond the scope of this paper, the very key to the avoidance of errors and artifacts lies in their systematic application. The authors will present, therefore, a compendious discursive survey of the main areas abounding in snags and pitfalls, and will outline a method of scientific self-critique and control developed over years of effort devoted to this field.

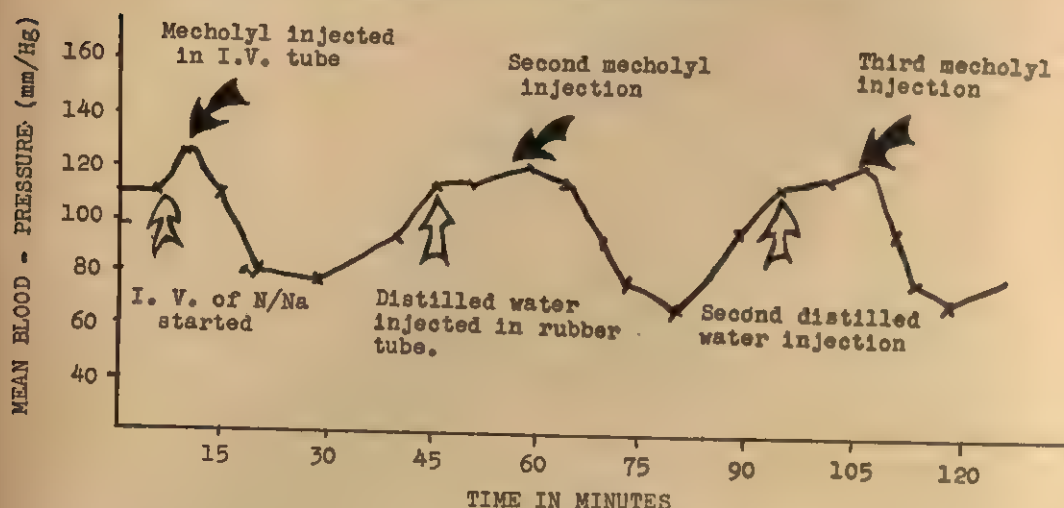
Basic to the intention of performing research is the desire to uncover new and unknown data. Inherent therein is the first and most commonly overlooked source of error: failure to provide means of rendering the material under study verifiable, that is, failure to provide adequate controls. Though all scientists agree on the need for controls, many misunderstandings exist, particularly on what is a control. For our purposes, this may be defined as any procedure or technique that allows the unequivocal establishment of the existence of a phenomenon, its equally unequivocal relation to a specific cause, and the elucidation of its ostensible, probable and actual natures (2). A simple procedure like the random repetition of a clearly verifiable cause-and-effect situation can be a "control," since it permits fulfillment of the conditions formulated in the definition.

Let us assume we desire to evaluate the effect of a substance "X," which has to be administered parenterally. A simple time sequential relationship will be inadequate

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FIGURE 1
Simple Time-Based Endogenous Control Drug and Distilled Water Placebo
Given Through i.V. Tube, Unknown to Subject



to illuminate us regarding its effects. The addition of a random sequence administration of placebo injections alternating with the drug will provide more reliable information, but only in a large series of cases. This drug-placebo combination, basis of the numerous "cross-over," "blind" and "double-blind" techniques of controlled experimentation so often quoted in the literature, is, in essence, a "control." As we shall see, however, this "control" cannot be accepted as valid unless the degree of verification it exerts is explicitly described.

Returning to the example of the hypodermic drug "X," we may expect that following its administration something or nothing may occur. If the latter, we may reasonably conclude that the effect of drug "X" is not measurable. But if the former occurs, then this effect must be the result of one or more causes, *i.e.*, systemic drug action, specific drug action, local drug action, somesthetic drug action, somesthetic needle action, psychologic needle action and specific procedural action. To ascertain reasonably which of these causes is responsible for the observed effect, one must resort to a suitably devised control. Unequivocally, then, it becomes apparent that the term "control" should be more properly expressed as "control procedure." When the procedure is applied to the test subject itself, we speak of endogenous control; when a separate but

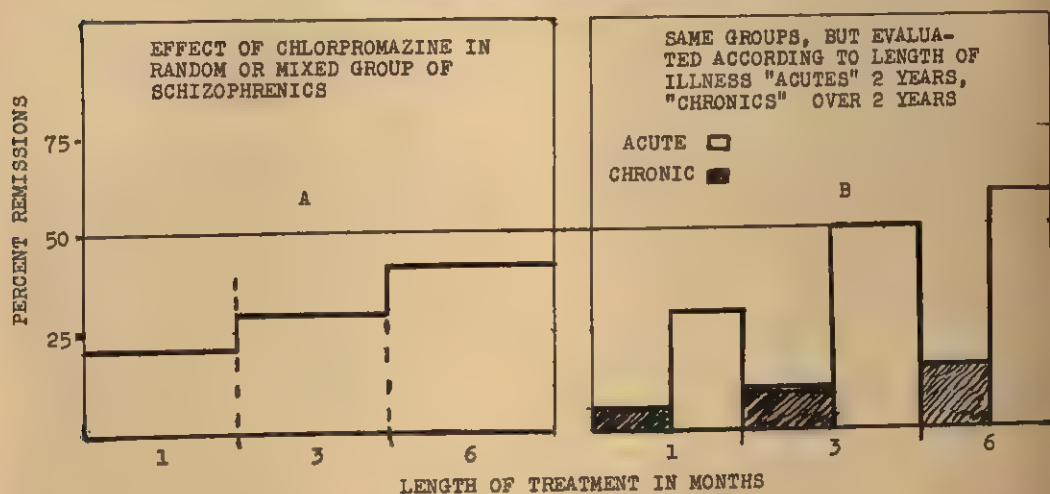
comparable (if not identical) subject is employed in the procedure we speak of "exogenous control," and when both procedures are merged we delve into the realm of "combined" controls. Whatever system is used, it should fulfill its purpose: to answer the question posed by the experimental set-up or research design.

The administration of placebos, as in a drug trial, or the creation of one or more "placebo groups," as in treatment evaluations, is not necessarily a control, but more often a source of error. In the first instance, unless the placebo is administered in such a fashion that an observed emergent can be clearly linked either to the placebo, the test substance or both, then obviously administration of the placebo has been fruitless, and any consideration of the validity of a given result merely "because a placebo was given" is unwarranted. The same comment applies to the second instance. Moreover, it is necessary that a placebo be itself rigidly controlled. If oral, it must have physical characteristics exactly analogous to the active medication, including texture, weight, color, odor, taste, size and shape. It must be administered in exactly the same fashion and with identical procedures as the real drug. If injectable, procedure is of paramount importance, since many patients are overly conscious of the color of the injection, its quantity and frequency.

The most important control procedure—and the most frequently overlooked in psychiatric research—is homogeneity of the sample. This is a matter of crucial importance regardless of whether control groups are used or not. Significant results cannot be expected from an investigation merely because ultrasophisticated methods of analysis are employed. A "samplable" sample is a basic necessity too, otherwise the investigator loses himself in a dangerous delusion and perpetrates an unwitting fraud.

ment this type of sample, by itself, provides 50% probability. Any other method of control, or combination thereof, that does not start from a similar basically homogeneous sample, cannot expect to achieve more than a negligible level of probability. So-called diagnostic groupings cannot be considered homogeneous. Indeed, it is rare when various investigators will agree on diagnostic categories in a given sample. When various investigators rate, evaluate or select symptoms or patients without controlled

FIGURE 2
Results of Evaluating Drug Effects With Reference
To Length of Illness (B), or Without Such Reference (A)



Vide, in this connection, the abundance of studies liberally employing percentages, statistics, pi and r squares, correlation factors, levels of confidence and analysis of covariants, wherein the sample is constituted of subjects with such a variety of symptoms, syndromes and diagnoses that any results obtained are representative of numerical values alone, and do not reflect changes intrinsic to the subjects studied. The basic control, then, in any psychiatric study consists of a suitably uniform sample: for practical purposes, 5 patients with closely comparable and clearly identifiable objective symptomatology, onset and development of the syndrome, age, sex, and cultural setting, constitute a suitable sample.

All other factors notwithstanding for evaluation of results of any single experi-

procedures, this results in as much randomization of criteria as there are raters. This is one explanation of why many therapeutic procedures, for example, appear to have no better, nor different results than random samples randomly treated, or randomly untreated.

One cannot, of course, minimize the difficulties of obtaining enough patients to provide a suitable sample. Several years ago one investigator(7) was hard-put to obtain an adequate number of simple schizophrenics from a hospital population of about 10,000 patients, for a particular project he had conceived which required a uniform sample. More recently another investigator (8) reviewed 2,000 patients considered as "depressions," who resided in a large New York State hospital, and found only 7 endogenous depressions among this group. In

our own experience, for a special extensive study of a new antischizophrenic drug, we were only able to obtain 860 verified and objectively identifiable chronic schizophrenics out of a population of 2,700 patients; at that, the study took 2 years to be completed. It is unquestionably necessary that samples be obtained from a large enough pool to provide an adequate number of patients similar by age, sex, precise symptomatology and other specific variables. One obvious solution is the pooling together of resources by several investigators, in the sense of performing collective or cooperative studies. Even more obvious is the need to utilize to the full the resources of state hospitals, where adequate numbers of patients, improved investigative control, and population stability provide highly efficient research situations. The contention that patients in state hospitals are different from patients in clinics and other settings is fallacious. The difficulty in obtaining a sufficiency of subjects is no license to conduct abortive, inadequate or "expeditious" investigations.

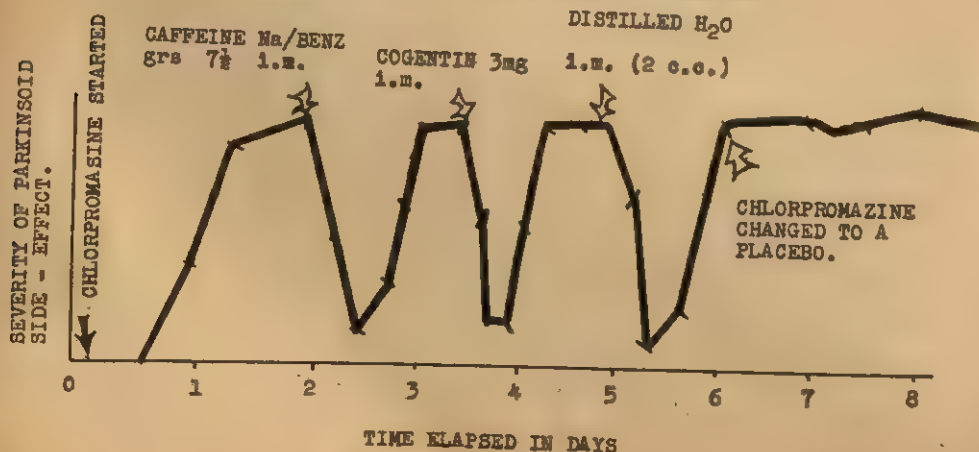
The preceding pitfall may be grouped under the heading of errors in controlling material; the research design of any study should begin by the investigator obtaining a suitable sample. Any sample should be homogeneous and uniform, as reproducible as possible, and clearly identified in objectively ascertainable, descriptive terms, to enable other investigators to perform comparisons with a minimum of confusion. Ade-

quate controls must be provided: not too elaborate, not oversimplified. Let us keep in mind that controlling an experiment is more a procedure than an adventitious artifact.

Observation errors arise from lack of adequate controls and from unconscious personal bias manifested as "overinterpretiveness." The following example will not only illustrate this point but its remedy as well: a patient, receiving an antipsychotic drug, developed rigidity and tremor. Although this particular drug was not known to produce extrapyramidal reactions, it belonged to a chemical family that did. The resident caring for the patient to make sure, administered an injectable antiparkinsonian drug, whereupon the symptoms disappeared. The resident concluded that the test drug did cause parkinsonism. On re-evaluation it was discovered that the "parkinsonism" disappeared too when a sterile hypo was administered, as well as when the drug was discontinued. It persisted for weeks, however, when the patient was placed on oral placebos (which could not be distinguished from the test drug). The conclusion reached by the resident, then, was faulty due to hasty interpretation of observational data.

This pitfall arises from errors in observation and includes not only superficiality in performing observations, uncritical observation and insufficient observation, but also the hasty interpretation of inadequate observation. During an investigation one should take pains to insure that observations are adequate and correct. These ob-

FIGURE 3
Experimental Verification of Placebo Reaction To A Test Drug



servations should be merely collected, and interpretations or theorizations of any kind should be deferred until all of the evidence that can be collected is in.

Most errors of recording are due to the failure, on the part of investigators, to set forth sufficient data, or to adequately define their recording parameters, or both. This is especially true with respect to descriptive terminology, even such common terms as "depression," "catatonia," "anxiety," and similar ones. We all believe everybody understand such terms as we do, yet, when individual definitions are compared, discrepancies of meaning are found to be staggering.

Tabular recording pitfalls are more subtle. They arise mostly from the tendency to conglomerate non-homogeneous quantities into apparently homogeneous headings, such as different symptom complexes into a single "diagnosis." Recording of non-homogeneous lumped data is as bad as computation from non-homogeneous samples. It is unfortunately frequent to see such tabular designations as "mixed psychoneuroses," or "schizoaffective disorders," not to mention the more baldly-stated miscegenations such as "pseudoneurotic" and "pseudopsychopathic" and the vaguely delimited but

ubiquitous "neuroses," "psychoses," etc., wherein are amalgamated multifarious psychogenic, psychosomatic, behavioral, intrinsic and adventitious manifestations in confusing array.

The error of recording pitfall lies in compiling actuarial data either from uncritical, ill-defined sources or under vague, undefined categories. The sum of several uncertainties does not equal one certainty, nor even an approximation. As data are collected, record only under headings made as exact as possible and, wherever feasible, define or explain your headings.

From the above usually follow errors of computation. It is fair to state these are by far the less frequent, yet there is a pervasive form the abolition of which will go far towards ameliorating the present obfuscation extant in many clinical reports. This is the practice where one expresses parts of sample groups as percentages, the total of which does not reach the hundred mark. Percentages, unless used as rates of occurrence, can only mislead. It is necessary to express numerical results in actual figures (rather than percentages) where the precise rate of occurrence, in a sufficiently large sample, is not known. "Bodily mechanisms behave the same way in 100% of individuals, not in

FIGURE 4
"Lumped" and Analysed Results of Evaluation of Antidepressive Treatment. Same Group of Patients in Both Cases

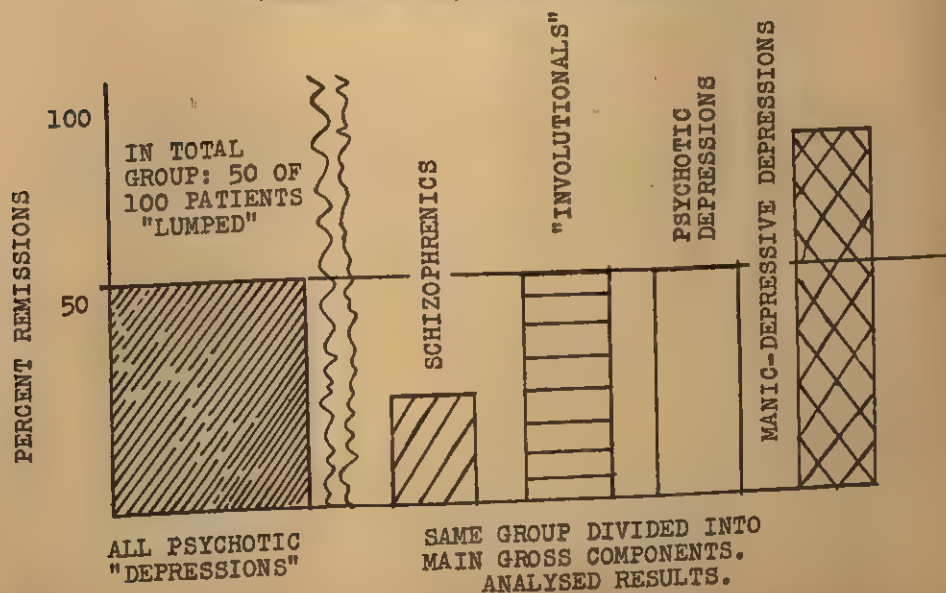
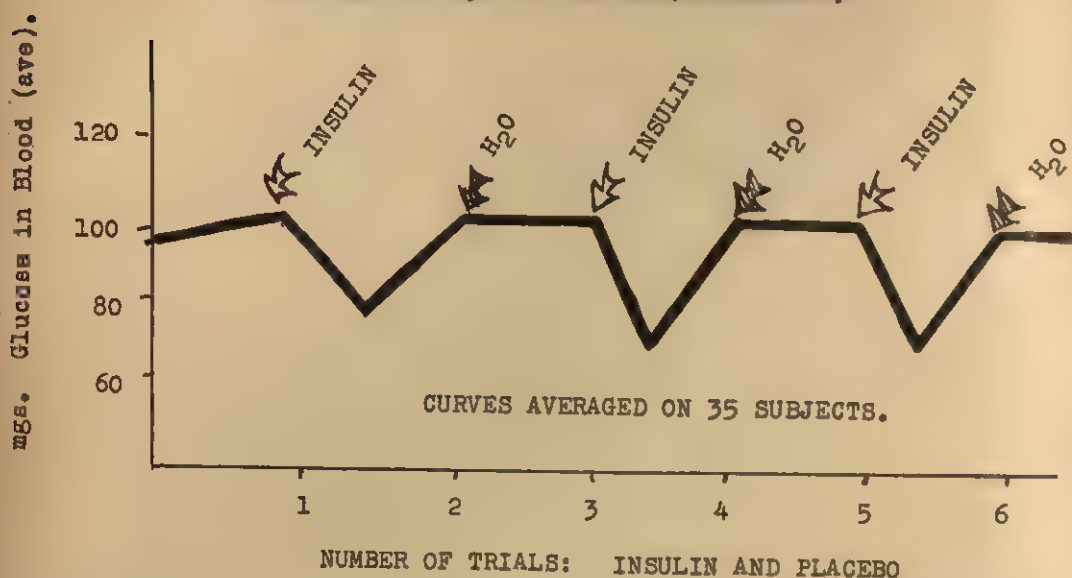


FIGURE 5

Demonstration of Cl. Bernard's Dictum (See Text) Indicating Specific Bodily Mechanisms Behave Always In The Same Fashion, Not Inconsistently



65% or 35% (3).

The pitfall derived from errors of computation can be avoided, at times, by merely expressing certain data as tables of figures rather than as computations. More often, however, it can be avoided by using the computing technique that is compatible with, or indicated for, the material obtained. Abstruse statistics applied to concrete results serve more to obfuscate and mislead than to enlighten, and detract from the credibility of the author.

Certain researchers require, *sine qua non*, the integration into the research team of a trained, expert statistician. However, the majority of the clinical studies which generally fall into the realm of research do not require such sophisticated assistance. In these studies where the clinical experience, diligence, and observational powers of the investigator enter into play, statistics serve first as an endogenous control for the investigator to check himself against the human frailties of unconscious interpretation, suppression, or reinforcement of the data so as to mold them to pre-existing theories, and second, as a means of explicitly and succinctly displaying his, the investigator's, data and conclusions.

Q-sorting, Latin squaring, and p factoring are not statistics, but statistical procedures,

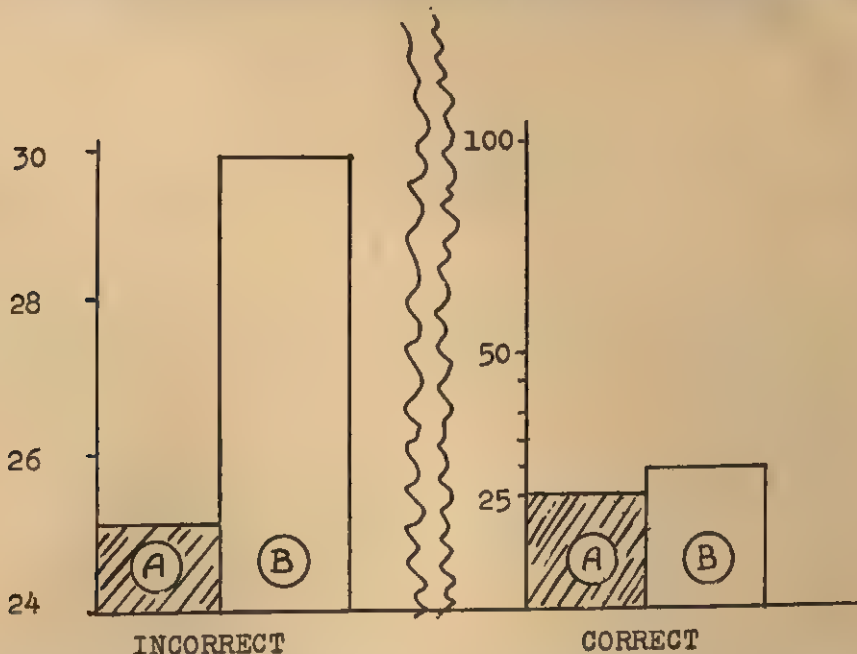
in the same fashion that psychoanalysis is a psychiatric procedure but not psychiatry itself. Extending the analogy, there is as little need to use psychoanalysis in every patient as there is to use Q-sort and other similar procedures in every research situation. Simple numerical tables are usually sufficient to represent both partial and total results for a given moment of time, or for a non-quanta series of individual times: i.e., number of patients developing extrapyramidalism in 3 weeks of treatment, in the first case, or number of patients developing ab-reactions after 1, 2, 5 and 9 months of intensive psychotherapy.

When it is desired to represent a time-based sequence, then a plain coordinate graph, with time as one of the ordinates and the datum desired as the other, is more than satisfactory. As was said before, use actual figures for tables or graphs unless the cases studied are greater than 100, in which case percentages can be safely used.

For the researcher who is without the help of an expert statistician, it is well to have at hand such excellent, because of their clarity, treatises such as G. U. Yule and M. G. Kendall's *An Introduction to the Theory of Statistics* (London: C. Griffin Co., 1947), and Raymond Pearl's *Introduction to Medical Biometry and Statistics*

FIGURE 6

The Illustration at Left Appeared In An Article Purporting To Show That "Far Less" of Steroid A Was Needed to Achieve A Certain Effect Than Steroid B. The Correct Method of Depicting Appears at Right



(Philadelphia : Saunders & Co., 1950).

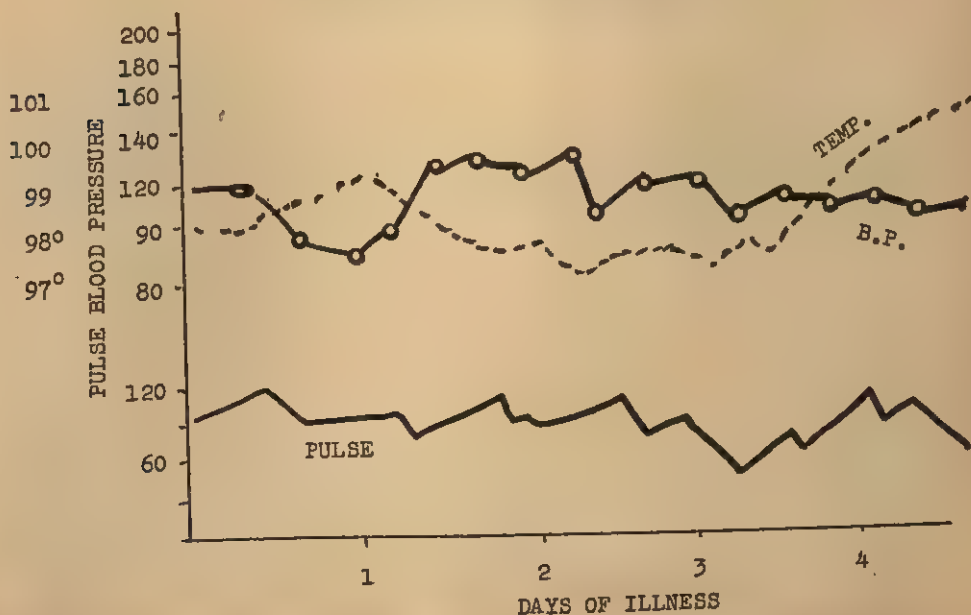
Errors of communication are also subtle. They are not as easily understood, nor corrected, as the preceding ones. Lack of clarity in exposition is the primary fault. This

pitfall particularly besets the investigator who attempts to demonstrate his results in graphic fashion and consists of graphic distortions of verbal or cipheral images.

The errors inherent in the methodology of

FIGURE 7

Unnecessarily Complex and Confusing Diagramming



tabulation and computation will, naturally, carry over when the tables themselves are used for graphic representation(4). These graphic expositional errors are more clearly demonstrated visually than explained verbally.

This pitfall may be overcome by relying on clear, simple and uncomplicated literary exposition, avoiding always terms of unclear or controversial semantics, and defining the terms of the exposition whenever it appears necessary to do so. A clear, simple verbal image should be also translated into simple, clear graphic representations. Reliance should be placed in straightforward graphs and charts rather than pictorial esoterica. In this specific instance, it pays to consult an expert in graphs and charts when results of a research study require more sophisticated representation.

In addition to these principal sources of error there are many hidden ones. Only two of the most pervasive will be cited: 1. The tendency to editorialize, and 2. The tendency to state conclusions not supported by the body of the findings or presentation. "The warning for . . . the writer is to stick strictly to his observations in answering 'How?' and to write continuously and without jumping to conclusions in discussing 'Why?'"(5). The first is exemplified by the frequent "conclusions" seen in many papers to the effect that a certain drug, treatment, procedure is, or may become a valueless, promising, useful, adjunct, or method, as the case may be without clearly representing the degrees of intensity of such qualifying adjectives. Sauerbruch, the famous thoracic surgeon, presented a discussion to the Allied Medical Control Commission in Berlin in 1945 comparing his aseptic surgical technique with and without the use of sulfa drugs. He reported there was little difference in mortality rates between the two procedures and concluded that the sulfa drugs were of little value. He further concluded that penicillin (which he had not used) would also be of little value "since it worked like sulfa drugs." He summarized his attitude by stating that "these drugs were passing fads"(6). In the light of today's knowledge one can see the faults in his arguments. When his paper was pre-

sented, however, only verification of whether or not the author adhered to strict scientific methodology could demonstrate to the reader if Sauerbruch was dealing in fact or "editorializing." Such editorializing is based on possible, and plausible derivations of the findings in the study itself, but not on actual facts; such derivations are, therefore, conceptual and problematical rather than actually descriptive, and as such are as apt to be wrong as right. These faulty extrapolations should be avoided.

The same comment may be made regarding statements unsupported by the evidence presented by the author himself. Such statements usually recommend employment of a therapeutic procedure, or a drug for some certain condition, the recommendation being based on results obtained in other conditions, although the connection, etiologically, between the two was neither demonstrated nor even alluded to in the experiment. Anybody just casually familiar with medical history can easily recognize in the above Galen's *modus operandi*. His statements and recommendations, plausibly presented, intuitively conjectured, speculatively and hypothetically evolved, and "editorially" presented, created so much medical bemusement that centuries were required to shake it off, and it has not yet been completely laid to rest.

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ADOLESCENT MALADJUSTMENT AND FAMILY DYNAMICS¹

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The staff of the Youth Development Project, a psychiatric outpatient clinic for adolescents and part of the department of psychiatry and neurology at the University of Texas Medical Branch has been studying for more than 3 years, a brief, intensive family centered psychotherapy program called Multiple Impact Therapy.³ In this treatment procedure, family groups, mobilized around the emotional disturbance of an adolescent, have been seen by an interdisciplinary team.

The treatment aspects of the method were described by Dr. Schuster to this audience 2 years ago. The results are now being evaluated and prepared for publication.

The purpose of this presentation is to point up what we have learned about the dynamics of the 63 disturbed adolescents and their families. It is our impression that our patients fall into 4 diagnostic categories, and that there are 4 types of family interaction, each associated with one of the 4 types of adolescent disturbance.

The categories of maladjustment in adolescence approximate in their description Sullivan's(1) and Erickson's(2) conceptions of what happens to an individual when specific developmental tasks are not completed at the appropriate stages of growth.

These categories are: the infantile maladjustment reaction in adolescence; the childish maladjustment reaction in adolescence; the juvenile maladjustment reaction in adolescence; and the preadolescent maladjustment reaction in adolescence. These types are supported by studies of the developmental histories, clinical observations and psychological testing of the disturbed adolescents in our series.

INFANTILE MALADJUSTMENT REACTION IN ADOLESCENCE

This first category includes 6 schizophrenic youngsters ranging in age from 14 to 17. The small size of our sample precludes any specific contribution to the dynamic theory of schizophrenia, but our findings are similar to those of other investigators in the field(1, 3, 4).

These youngsters live in an autistic fashion typical of early infancy. They appear dedicated to maintaining a symbiotic relationship with "the mothering one." Their socialization is extremely limited and makes no sense to their peers. They relate as though peers were objects or spectators. They are indifferent toward authority and education. Their individuality seems to have been sacrificed for the illusion of being omnipotent masters in their fantasy world.

Puberty changes intensify their being perceived more clearly as deviant members of their group. Although they seem to trust no one, including themselves, they deal with their uncertainty by occupying themselves in keeping an adult happy, sad, or otherwise emotionally involved. This is a full time preoccupation that appears to have interfered with their emotional growth.

One of the striking facts about the families of these adolescents, although not unique to this group except in terms of severity, was the contrast between the overt and covert patterns of parental leadership. The parents seemed on the surface to function according to the imperatives of our culture. Typically, the fathers appeared to function as moderately successful breadwinners, while the mothers appeared to be in a relatively passive position as homemakers. At a covert level it was typical for one of the parents to accept his own exclusion, avoiding leadership, while the other parent functions subtly in a dominant position.

All of these couples were unhappy and had been so most of their lives. They were

¹ Read at the 117th annual meeting of The American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

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³ This study is supported in part by Public Health Service Grant OM76(R).

mistrustful of themselves and of others. They became disillusioned with one another early in their marriage after each found the spouse was not the kind of person that could make up for the unhappiness of the past. Their life long frustration and hostility were continually reinforced in the marriage relation but remained concealed except for occasional outbursts over irrelevant issues (6). As has been observed in families of schizophrenics, by Lidz(5) and others(7), they showed no capacity for flexible cooperation.

One of the children born in this climate of parental emotional divorce, became engaged in a prolonged and consuming symbiotic relationship with the more aggressive and needy parent. Though rejecting and over-protective, the mothering parent seemed to have been allowed by the weaker spouse to mould and coerce the child in a way that granted total control. Thus symbiosis appeared to have been the only working solution for a child in this situation. The selection of a particular child to occupy this position seemed related to various factors such as response of the family to the birth of a child of a certain sex or appearance, environmental stress, sibling position, illness, physical handicap, or constitution. These findings are similar to those described by Vogel and Bell(8) on the selection of a family scapegoat.

When the emotional needs of the mothering one were met by the schizophrenic child, one or more of the siblings seemed to have been thereby saved from a similar fate and to have acquired instead the conventional values of the family. This so-called "well sibling," by being dependable, seemed able to achieve a working adjustment inside and outside the family. He did not, like his sick sibling, get involved in a double binding relationship with the dominant parent, but formed a closer relationship with the weaker and excluded parent, who apparently had a more positive influence on him.

Crises brought these families to seek professional help for their sick child after his infantile behavior became unbearable to them or society or when the youngster became overtly psychotic after failure to adjust to the increasing demands of reality.

These families in their initial encounter with the team were highly resistive to altering their communication patterns but were interested in extruding the "sick member" or in having him labeled as defective, homosexual, or hopeless.

CHILDISH MALADJUSTMENT REACTION IN ADOLESCENCE

This second category was represented by 20 boys and 1 girl, referred for aggressive behavior that appeared uncontrollable. Their acting-out behavior was manifested by temper tantrums, threats, destruction of property, truancy, car theft, running away from home, and failing at all adult sponsored projects. They troubled their parents and the community with their arrogance and negativism, their anti-learning attitude, their low tolerance for frustration, and the tendency to get themselves in trouble in an impulsive way that made the responsible adults ashamed and sorry. They seemed to live out a power fantasy calculated to make others hate them. Although dynamically similar in many respects to the infantile adolescents, this type of youth appeared mostly engaged in a struggle for autonomy that his parents seemed emotionally unable to grant. Having specialized in manipulating adults, these young persons failed to make affective contact with their peers and made little sense to them. This made it necessary to avoid situations with peers that might validate their feeling of impotence as individuals. They associated with peers of both sexes only when they could impose their own terms and thereby avoid competition; more typically they associated with younger or older youths. As puberty progressed, the childish behavior became more obvious and seemed to lose its charm to the mothering ones, who after years of believing or acting as though child rearing was their exclusive responsibility, decided to give up that role, and this increased the child's efforts to remain important. While in the infantile adolescent group the mothering parent was successful and satisfied in maintaining the symbiotic relationship with the sick one, in the childish adolescent group dependence on the child by the mothering ones gradually declined and this was experienced by the adolescent as

rejection. His solution then became a desperate attempt to hold on to the mothering one by increasing the nuisance value of his childish behavior.

The family matrix of the childish adolescents showed a high degree of imbalance in leadership in the home. Their fathers had more ego strength and appeared to be more capable of leadership in most instances. Most of these 21 fathers began their participation in the life of the family after the mother-child relationship had developed during the fathers' absence. The fathers were all dealt with by the children as though they were intruders. They were or became reluctant to exercise authority. As a rule they functioned in a passive-aggressive way and permitted their wives, who needed their support, to fall flat on their faces in their efforts to control the children. These parents had feelings of unworthiness, inferiority, self doubt, and were afraid of showing their hostility overtly. These fathers too became non-participant observers whose observations tended to be disqualified by the family as a whole.

In a majority of our cases, the childish adolescent was the oldest of several siblings. He was regarded as undependable and tended to lose his birthright to a more dutiful conforming younger sibling. The childish adolescent patients were usually referred as a result of a crisis situation at about age 15. Their families brought them to the clinic asking for advice on how to curb the annoying behavior of their child. These were situations that brought a heretofore excluded father more meaningfully into family relations concerning the nominal patient. While initially the parents were highly resistive to focusing on anything but how to alter the child's behavior, the interest of the team in helping them to achieve satisfaction as parents within the framework of their personal limitations brought a rapid reduction in their resistance to self study.

JUVENILE MALADJUSTMENT REACTION IN ADOLESCENCE

This third category included 13 boys and 3 girls who were anxious and fearful. They presented a variety of somatic symptoms such as headaches and gastrointestinal disturbances as well as other neurotic traits.

Their average age was about 12. They seemed intimidated by parental authority. Their problems appeared to be related to fear of initiative and to guilt(6).

Most of these anxious children participated in groups composed of their age mates, but their worries about competition kept them from being intimately involved. They seemed to learn well according to national achievement test standards, but often had poor marks. They had internalized patterns of conformity similar to those of over-conscientious adults. Their presenting problems were tics, annoying habits, poor attention, somatic symptoms, and phobias.

Occasional delinquent acts of a neurotic sort seemed to invite the intervention of authority, which resulted in their being regarded as maladjusted rather than mean. These neurotic adolescents in our series came from homes in which the parents were strongly competitive for authority, each claiming that he had the right idea about the proper raising of the children. Most of the fathers took an aggressive position manifested by authoritarian and hypercritical attitudes(12), that ostensibly covered over feelings of inferiority, doubts about their identity and fear of intimacy. The mothers had basic conflicts similar to the fathers', and were habitually on the defensive in response to the husbands' repeated unfavorable reflexions on their ability to function in the mothering role. In most cases these parents quarrelled frequently and openly in the children's presence about inconsequential details of child rearing.

The relation of the fathers to these adolescents was rarely so direct as to allow them to vie openly for the maternal role. It appeared that what the fathers demanded of their wives for the children was very much like what they wanted for themselves, yet because of their lack of awareness of dependency on their wives, they failed to consciously perceive the children as rivals. The maladjusted juveniles behaved in oedipal fashion, acting as though they expected and feared retaliation from the father for the closeness they had with the mother. Intense sibling rivalry characterized these families. As initiative and capability seemed to be punished with criticism and blame, these overintimidated children usu-

ally expressed the feeling that they could not alter their way of relating to others.

Prior to marriage these parents generally had some degree of relatedness to the community. Marriage and the appearance of children were regarded as unhappy interruptions of those rewarding premarital experiences. The fathers, however, had a reputation for being hard to get along with and showed limited adaptability in their vocational life.

Generally the cases were referred by school authorities after they found the neurotic symptoms so disruptive as to justify the exclusion of the children from school. In most of these cases the parents' marriage was at a critical point. Initial cooperation in treatment was high in these families, although it often quickly changed to an expression of ambivalence about their dependency in the manner of the help-rejecting complainer.

PREADOLESCENT MALADJUSTMENT REACTION IN ADOLESCENCE

Our fourth type is represented by a group of teenagers with an average age of 16. These youths were in tune with peer group norms and demanded the privileges of young adulthood. They also demanded recognition of their disregard for the responsibilities that go with those privileges. Their parents reported a fairly recent onset of rebellious and delinquent behavior. In contrast with the guilt-free acting-out of the childish adolescents, who appeared to be struggling for a sham autonomy, this group seemed to have doubts about their identity. They participated with their peers and to a large extent made sense to them, but at one time or another they forfeited their status in the group by getting the group into trouble.

They seemed to exaggerate their bonds and identification with the gang(9) at a time when their age mates start to shape their individual identities. These adolescents had many doubts about their manhood or womanhood. This seemed related to the doubts the parents had about themselves.

These adolescents got in trouble with the school and the community. Their school placement was generally in accord with

their mental ability, despite their façade of indolence and frequent difficulties with authority. Actually, this group was ambivalent about authority. Their misbehavior appeared at times almost deliberately calculated to require parental and community disapproval, as well as firmer and more consistent discipline. They showed more anxiety than the childish acting-out adolescents; yet they were more self confident about their ability to do things. They were interested in social and sexual activities that expressed contempt for their parents' values. At the same time these activities were sponsored by the parents' failure to do anything about their children's misbehavior(10).

The majority of the fathers appeared in civic life to abound in "goodness." They were active leaders in business. At home, however, they functioned as passive-aggressive critics. The mothers as a whole were self critical and admitted to feelings of inferiority or past failures. These adolescents were either the oldest or the only child. They resented the freedom of the younger siblings who seemed to them to be more privileged. Yet they tended to be admired and liked by these younger siblings.

Crises mobilized these families in an attempt to keep in the home the rebellious child whose behavior seemed to endanger his remaining a sick yet vital part of the family. The defiance of school and community made institutional placement a necessity or a possibility.

In treatment these youths were fairly verbal and expressed their complaints and their understanding of the history of their difficulties, without however being willing to compromise their loyalty to and identification with their particular deviant group standards.

The fathers were quite matter-of-fact and cooperative, although unaware of the extent of their involvement in the problem. They appeared to be shrewd observers of their family. Their failure to act on their observations was a surprising discovery to them.

The mothers were self critical and generally more resistive and guilty in treatment, feeling that the investigation would uncover that they were at the root of the adolescent's difficulties. Both parents had fairly

complicated relations in the community but had no projects which they shared.

While they were competitive in their relations with their equals, often as a couple they had worked out a division of labor that unwittingly fostered the weakness of one or the other. Their appreciation of what to take for granted was impressive and involved tacit agreement not to invade established areas of privacy. The few matters openly discussed were quite superficial and tended to be without emotional involvement.

CONCLUSIONS

The various types of adolescent disorder may be related to 4 types of unhealthy family interaction. The adolescent's primary role in intrafamilial imbalance is to function as a stabilizing factor, that is, he internalizes or externalizes the unresolved, unspoken parental conflicts. The realization of his individual potentials and emotional growth are impaired, inasmuch as they are made secondary to the primary role. The neurotic equilibrium of the family is broken when the adolescent's behavior becomes unendurable to himself, the family and/or society. This precipitates a crisis that tends to mobilize the family to seek

some type of help. It is at this time that a clear understanding of adolescent maladjustment and family dynamics becomes most important for diagnostic and therapeutic purposes(11).

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PSYCHIATRIC APPRAISALS OF PARENTS AND SIBLINGS OF SCHIZOPHRENIC CHILDREN^{1, 2}

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This report will summarize psychiatric appraisals of the parents and siblings of a group of schizophrenic children in treatment at the Ittleson Center for Child Research. The study, still in process, was designed to add to current epidemiologic information regarding schizophrenic children and, of more significance, to clarify some theoretic and methodologic issues in the investigation of etiologic factors.

At Ittleson Center, clinical observation combined with systematic research has supported the concept that children with the designation "childhood schizophrenia" actually represent a heterogeneous group of severe ego disturbances. Prolonged clinical observation of these children has led to the awareness that even after children with obvious neurological impairment were excluded at the time of application for treatment, there remained a large group within the childhood schizophrenia universe with suggestive, transient or subtle signs of neurological deficit. In one study when ratings were devised which gave weight to these equivocal or "soft" neurological signs, it was possible to subdivide the group of schizophrenic children into one subgroup without signs or history suggestive of neurological impairment, termed the "nonorganic" subgroup, and a subgroup with such signs and/or history, termed the "organic" subgroup. For experimental purposes these appraisals were made independently by a pediatric neurologist who had no access to clinical records, therapeutic information or the other data being accumulated in a

systematic and controlled study of schizophrenic children and their families. This study demonstrated that the 2 subgroups of schizophrenic children were significantly differentiated from each other in many areas of ego functioning (8). The gradient in most areas of ego competence was: normal control group superior to "nonorganic" schizophrenic subgroup which was in turn superior to the "organic" schizophrenic subgroup. The validity of the subdivision of the group of schizophrenic children was further supported in the study through the investigation of family functioning using a participant observation technique (3, 4, 8, 9), and in another study by appraisal of maternal attitudes using an interview technique (18). Families of the "nonorganic" subgroup were shown to have a significantly lower functional adequacy than the families of the "organic" subgroup who approached the adequacy of the control families. Maternal attitudes toward appropriate structuring of the child's environment were significantly more deficient in the "nonorganic" subgroup. This phenomenon of inadequate, inappropriate or confused structuring of the child's environment by the mother had been repeatedly observed on a clinical level and referred to as "parental perplexity" (11, 18).

This research demonstrated the heuristic value of a theory of causal heterogeneity in investigations of the etiology of childhood schizophrenia. If a group of schizophrenic children such as that studied above had been considered to have a unitary disorder, subgroups would not have been looked for or recognized. In addition, had the group been treated as a single one the significance of the deviancy in the families of the "nonorganic" subgroup would have been disguised or diluted by the presence of the more normal families in the "organic" subgroup. In other words, since both "good" and "bad" families would be found in the "single" sample, the fallacious conclusion would have been made that family influ-

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Doctors S. Radin, D. Sobel, V. Teichner and Miss A. Sherman participated in the collection of the data presented in this report.

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ence is unimportant.

The above reported studies additionally suggested that any investigation of the incidence of schizophrenia in the parents of schizophrenic children, such as the one to be reported, needs to include careful assessment of family functioning. For example, the above studies indicated that family influence may be of more primary importance for the "nonorganic" subgroup than for the "organic" subgroup. Whether parental influence is transmitted only through the psychosocial atmosphere of the home or also via the genes, was not established. The low adequacy families did furnish an inferior psychosocial atmosphere but genetic factors which may coexist were not assessed. On the other hand, in studies of the incidence of parental schizophrenia in families of childhood schizophrenics, the simple assumption of genetic transmission of pathogenic influence by families containing psychotic parents without adequate assessment of the psychosocial atmosphere of the home overlooks the possibility of non-genetic influence of such a family on the child.

Theoretical Postulates. In initiating the study to be described the following theoretical postulates were proposed.

In accordance with the concept of etiological heterogeneity outlined above, it was predicted that there would be a greater incidence of schizophrenia in the parents of the "nonorganic" subgroup as compared with those of the "organic" subgroup of schizophrenic children. In the "organic" subgroup where traumatic factors such as interference with intrauterine development, brain damage, and encephalitis are presumably important, it was assumed that the etiologic importance and incidence of parental psychosis would be less than in the "nonorganic" subgroup.

It should also be kept in mind that included in the conceptual model which guides the research at Ittleson Center (8, 10) is the concept of *multiple etiologic factors acting in combination with each other in a single child*. These etiologic factors include somatic factors (genetic and/or acquired) and family environment. Actually many, if not all, of the children in the "organic" subgroup are considered to represent vary-

ing mixtures of somatic incapacity, the effects of a pathogenic family environment and inherited factors. Therefore, although it is predicted that a greater number of the parents of the "nonorganic" subgroup would show schizophrenia, the finding of some psychotic parents in the "organic" subgroup families would also be expected.

It was expected that either on a genetic or psychosocial basis more siblings of the "nonorganic" subgroup children would be schizophrenic. Even disregarding genetic influences, in light of the previous study which indicates a lower adequacy in the families of the "nonorganic" children, it was expected that the siblings of the "nonorganic" subgroup would be less well adjusted children than those of the "organic" subgroup.

The assumption that in the presence of schizophrenia in the parents the psychosocial as well as the genetic influences on the child must be considered led to the expectation that families with one or two psychotic parents will have lower family adequacy than families without psychotic parents.

TECHNIQUES

The techniques that were used to test these propositions are :

1. Independent neurological appraisal and rating of the schizophrenic children by a child neurologist, as previously described.

2. Psychiatric diagnosis of parents and siblings.

3. Appraisal and rating of general adjustment of the siblings by the interviewing psychiatrist. In view of expected difficulties in establishing diagnoses in siblings of very broad age range an appraisal of general adjustment of each sibling was made. The children were rated on a scale from 1 (very poor adjustment) to 9 (excellent adjustment).

4. Rating of family adequacy by a participant observation technique during a 3-hour home visit with all family members present (3, 4). This is identical with the technique mentioned previously.

Diagnosis and selection of schizophrenic children. The parents and siblings of 45 schizophrenic children were studied in this experiment. Although this is a small sample,

it represents 90% of all children admitted for treatment at the Center during the past 5 years. These children ranged in age from 6-11 years at the time of study. The onset of symptoms in all of these children was before the age of 5, and in more than one-half of the group some signs of abnormality were noted in the first year of life. In every case used in this study the child had been classified and referred to the Center as a childhood schizophrenic by at least one psychiatrist and this diagnosis was confirmed subsequently by study at the Center. Agreement in judgment of 2 psychiatrists at the Center was required before a child's diagnosis of childhood schizophrenia was accepted. The criteria used at the Center for the diagnosis of childhood schizophrenia conformed generally to those defined by Bender(6) and included those of Potter(20) and Bradley(7). Several of the children fell into the category of infantile autism described by Kanner(15), both early, with autism from the first year of life, and children who seemed to develop normally and then lapsed into an autistic state. Also included in the group are some children who could be classified as having a symbiotic psychosis as defined by Mahler(17). As in the previous Center studies, children with manifest neurological ailments had already been excluded from admission as were children who were cases of dependency and neglect. All children came from unbroken homes. The full impact of intake procedures which restrict the study to children from structurally intact families is not entirely clear. How these children differ from the full range of childhood schizophrenics which includes both younger children and children from broken homes is an open question. Similarly present data regarding incidence of parental psychosis may differ from samples that include nonintact families.

Parental Diagnosis. It is well recognized that qualitative and quantitative differences in the criteria used for the diagnosis of adult schizophrenia by various examiners introduce difficulties into the comparison of data of different investigators.

The 4 examiners who made the diagnostic appraisals of the parents and siblings of these schizophrenic children were experi-

enced psychiatrists, all of whom had received some training at the Columbia Psychoanalytic Clinic. They had had considerable experience in the diagnosis and treatment of borderline psychotics, and their orientation to the diagnosis of schizophrenia is influenced by the approach of Hoch and Polatin(13). Therefore, the group of parents in this study who are classified as schizophrenic contains a number of persons who can be variously designated as borderline, pseudoneurotic, latent, ambulatory or compensated schizophrenics, and whom some investigators might treat as separate from the psychotic group of family members as "schizoid personalities." Only one mother and one father had a history of hospitalization for schizophrenic psychosis. These parents and siblings were seen for as many diagnostic sessions as was necessary to establish the diagnosis. The amount of time spent making the diagnosis ranged from 1-12 hours per subject.

The parents studied included 45 mothers (16 mothers of "nonorganic" and 29 mothers of "organic" schizophrenic children) and 39 fathers (13 fathers of "nonorganic" and 26 fathers of "organic" schizophrenic children). Of the total of 50 siblings, 48 were examined⁴ (22 siblings of "nonorganic" and 26 siblings of "organic" schizophrenic children). Two siblings were a set of identical twins, and one sibling was an identical co-twin of a schizophrenic index child.

Family adequacy ratings were available for 28 of the families.

General descriptive data. To assist in defining the schizophrenic children of this study they have been contrasted with a group of 30 public school children between the ages of 6 and 11 years, in number of children in the family, birth order and age of parents at time of child's birth⁵ (Tables 1, 2, and 3). No conclusions are drawn regarding differences among the various

⁴ Although these were structurally intact families, 6 of the fathers and 2 siblings were not available for examination for various reasons.

⁵ This control group was used only in assessing these 3 factors. It was not used in the following study of incidence of parental and sibling psychosis.

TABLE 1
Number of Children in Families of Schizophrenic Children Classified by "Nonorganic" and "Organic"
Compared with Number of Children in Families of Normal Children of the Same Age Range :
By Means and Sigmas

	MEAN	SIGMA
Normal children *	2.37	0.46
Schizophrenic children, total group	2.11	0.93
Schizophrenic children, "nonorganic" subgroup	2.44	1.11
Schizophrenic children, "organic" subgroup	1.93	0.74

* Dublin(2) reports that the mean number of children in the average American family, excluding childless couples, is 2.2.

TABLE 2
Birth Order of Schizophrenic Children Classified by "Nonorganic" and "Organic" Compared with
Birth Order of Normal Children of the Same Age Range : By Number and Percent

	ONLY		FIRST *		SECOND		THIRD		FOURTH		FIFTH		TOTAL NUMBER
	#	%	#	%	#	%	#	%	#	%	#	%	
Normal children	0	0.0	17	56.7	12	40.0	1	3.3	0	0.0	0	0.0	30
Schizophrenic children total group	11	24.4	32	71.1	7	15.5	4	8.9	1	2.2	1	2.2	45
Schizophrenic children "nonorganic" subgroup	3	18.7	10	62.5	1	6.2	3	18.7	1	6.2	1	6.2	16
Schizophrenic children "organic" subgroup	8	27.6	22	75.9	6	20.7	1	3.4	0	0.0	0	0.0	29

* Includes "only" children.

TABLE 3
Age at Birth of Child of Mothers and Fathers of Schizophrenic Children Classified by "Nonorganic" and
"Organic," and Normal Children : By Means and Sigmas
(In Years)

	NORMAL GROUP		TOTAL GROUP		SCHIZOPHRENIC GROUP "NONORGANIC" SUBGROUP		"ORGANIC" SUBGROUP	
	MEAN	SIGMA	MEAN	SIGMA	MEAN	SIGMA	MEAN	SIGMA
Mother's age	27.83	4.16	28.75	4.66	29.92	5.83	28.08	4.08
Father's age	31.16	5.08	32.50	6.00	33.25	6.83	32.08	5.33

groups although the relatively high incidence of first born in the "organic" subgroup of schizophrenic children is of suggestive interest. Previous findings of a high percentage of first born schizophrenic children (5, 16) might actually reflect the influence of the "organic" subgroup.

As in all previous studies(1, 5, 14, 16), there are more boys than girls in the schizophrenic group. The ratio of males to females in this group of schizophrenic children is 2.7/1. The "organic" subgroup shows a higher incidence of males (3.8/1) while

in the "nonorganic" subgroup the male predominance is less striking (1.7/1).

Psychiatric Appraisals of Parents and Siblings. Table 4 shows the incidence of schizophrenia in the members of the families of schizophrenic children. The very high incidence of schizophrenic mothers (29%) is particularly noteworthy. It is more striking in the "nonorganic" subgroup where nearly half the mothers are schizophrenic, but it is also found in the "organic" subgroup where about one-fifth of the mothers are psychotic. The children in these families

TABLE 4

Incidence of Schizophrenic Parents and Siblings of Schizophrenic Children in Families With a "Nonorganic" Schizophrenic Child and with an "Organic" Schizophrenic Child: By Number and Percent

	"NONORGANIC" SUBGROUP			"ORGANIC" SUBGROUP			TOTAL GROUP		
	NO. SCHIZO-PHRENIC	TOTAL NO. EXAMINED	% SCHIZO-PHRENIC	NO. SCHIZO-PHRENIC	TOTAL NO. EXAMINED	% SCHIZO-PHRENIC	NO. SCHIZO-PHRENIC	TOTAL NO. EXAMINED	% SCHIZO-PHRENIC
Mothers	7	16	43.7	6	29	20.7	13	45	28.8
Fathers	1	13	7.7	4	26	15.4	5	39	12.8
Mothers & Fathers	8	29	27.6	10	55	18.2	18	84	21.4
Siblings *	3	22	13.6	1	26	3.8	4	48	8.3

* Includes one identical co-twin of a schizophrenic child and a set of identical twin siblings of a schizophrenic child.

have been reared by mothers, themselves vulnerable in ego.

The greater incidence of schizophrenia in mothers of the "nonorganic" subgroup (44%) than in the mothers of the "organic" subgroup (21%) is as hypothesized. This finding is viewed as tentative in view of our small sample, yet it tends to reinforce the previous evidence, which indicates that childhood schizophrenia is a heterogeneous disorder with at least these 2 subgroups, and emphasizes the need for such subdivision in further etiological studies.

The incidence of maternal schizophrenia (29%) is higher than that of paternal schizophrenia (13%). The significance of this is not definite. This finding is in line with the hypothesis that since the mother is the primary influence in the period of early development of the child, one should expect to find more severely disturbed mothers than disturbed fathers in the families of schizophrenic children. However, there is some evidence to suggest that more schizophrenic women marry than schizophrenic men, and that the general incidence of schizophrenic women who become mothers is higher than that of schizophrenic men who become fathers (19).⁶ This disproportion

might be further emphasized in this sample which excludes nonintact families in that it is possible to assume that a family is more likely to survive intact with a schizophrenic mother than with a schizophrenic father. Other speculations as to the significance of this finding include the possibility that latent schizophrenic tendencies are more easily brought into evidence in the mother who has the responsibility for care and close personal contact with the child than in the father who can maintain a relatively integrated status through detachment and pursuit, outside the home, of less confusing, more structured and concrete occupational activities (12).

The incidence of diagnosed schizophrenia is so small in the fathers and siblings that, here especially, larger groups would have to be studied before definitive conclusions could be made. However, of some interest is the finding that siblings of the "organic" subgroup of schizophrenic children achieve a higher mean adjustment rating (5.7 ± 1.1) than the siblings of the "nonorganic" subgroup (4.5 ± 1.6).

Family Adequacy Studies. Comparison of family adequacy scores of families with and without psychotic parents shows that families with at least one psychotic parent are inferior in adequacy of functioning to families without psychosis in either parent (family adequacy ratings of 162.2 and 209.9 respectively).⁷ Table 5 shows the distribution of families in relation to family adequacy score and presence of parental schizophrenia. Only families without parental schizophrenia are in the upper range of family adequacy (scores from 200 to

⁶ Pollin, Ladusky and Lee found among the parents of 398 chronic schizophrenic patients carefully screened for admission to the National Institute of Mental Health that 38 mothers and 9 fathers were schizophrenic. A subsequent analysis of the 453 male and 423 female schizophrenic patients admitted to Warren State Hospital over a period of 10 years demonstrated that as a result of differences in the marriage and fertility rates the female patient group had 560 living children while the male patient group had 315 children. These data are part of a study still in progress, but nearing completion and planned for publication sometime during the coming year.

⁷ Highest possible family adequacy rating is 294.

TABLE 5
Distribution of Families of Schizophrenic Children in Relation to Diagnosis of Parents and Family Adequacy Scores

PARENTAL DIAGNOSIS	FAMILY ADEQUACY SCORE										
	100	120	140	160	180	200	220	240	260	280	294
Both Parents schizo- phrenic (N=3)		†		*		*					
Only mother schizo- phrenic (N=4)	†	†			†	†					
Only father schizo- phrenic (N=1)						*					
Neither parent schizophrenic (N=20)			†	†		*	*	†	*	*	*
			*	*	†	†	*	*	*	*	*

(Total N=28)

†=Family of "nonorganic" schizophrenic child (N=12).

*=Family of "organic" schizophrenic child (N=16).

294). These findings further support the contention that postnatal familial influences cannot be ignored in etiological studies. They do not prove that genetic factors are not involved in childhood schizophrenia. However, they do point to the fact that the presence of schizophrenic parents in the families of schizophrenic children cannot in itself be taken to prove the genetic hypothesis as a sufficient explanation because these families with schizophrenic parents are also relatively inadequate families from the psychosocial viewpoint.

Comparison of the findings of the present study with those of previous investigations into the incidence of schizophrenia in the parents and siblings of schizophrenic children, notably the interesting studies of Bender and Gruett, Kallman and Roth, and Kanner (5, 14, 16), can be at best highly speculative because of differences in selection, diagnostic criteria, techniques of family appraisal, and design of study. Because of the demands of brevity this comparison is not included in this report.

SUMMARY

An attempt has been made to demonstrate the heuristic value of the concept of etiological heterogeneity in investigations into the etiology of childhood schizophrenia. Emphasis has been put on the awareness of possible varying mixtures of etiological factors including somatic deficit (acquired

and/or genetic) and psychosocial factors. Stress has been placed on the need for techniques that adequately measure the subtler indications of neurological impairment in the children and the adequacy of the families' interaction with the children, in order to assess their relative roles in childhood schizophrenia.

The division of a group of schizophrenic children into a subgroup with signs and/or history suggestive of neurological impairment and a subgroup without such signs or history has been supported in previous studies done at the Ittleson Center. The findings supporting this kind of grouping included differences in many areas of ego functioning of the children, differences in the adequacy of the families, and differences in the maternal attitudes of the mothers. The validity of this subdivision is further supported in the present study by differences in the incidence of schizophrenia in the mothers of those 2 subgroups. There are twice as many mothers of the "nonorganic" subgroup diagnosed schizophrenic as there are mothers of the "organic" subgroup.

The importance of the psychosocial impact of families with schizophrenic parent(s) is underlined by the finding that families in which one or both parents are schizophrenic have a lower family adequacy rating than families without parental psychosis.

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SUCCESS AND FAILURE IN THE TREATMENT OF CHILDHOOD SCHIZOPHRENIA^{1, 2}

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The diagnosis of childhood schizophrenia is so frequently surrounded with an aura of gloom that we thought it worthwhile to consider the factors associated with success and failure in the treatment of these children. We compared the 10 cases demonstrating the greatest improvement with the 10 showing the least improvement in a total of 40 schizophrenic children and their families. We used a psychoanalytic frame of reference(1, 2, 3) and saw these cases in psychotherapy for an average of 4-5 years in day care, inpatient, outpatient, and private practice. In addition, we used environmental adjuncts such as schools and group programs rather than drugs or shock treatment. These 40 cases constituting our research sample were selected from a larger group on the basis of availability of data.

We developed scoring criteria to evaluate changes in personality and social adaptation, but time does not permit description of these criteria. About 75% of these 40 children demonstrated considerable diminution or remission of schizophrenic symptoms and major gains in social adaptation. About 25% either remained fixed or regressed. Therefore, the 10 most and 10 least improved represent the extremes of success and failure rather than a measure of total success or failure.

Drawing on data from interviews with these children and their parents, psychological testing, observations by ward personnel, teachers, and community agencies, we found the following:

1. *Age of child.* There was no significant

difference between the 2 groups in the average age at the start of treatment—8.2 years for most improved and 7.6 years for the least improved.

2. *Sex.* There were 8 boys and 2 girls in each group.

3. *Diagnostic subcategory.* These children were classified according to the following subcategories(4) on a 1 to 5 scale of diminishing severity: (a) with minimal ego development (also referred to as autistic, atypical, or pseudoretarded); (b) with fragmented ego development; (c) with delinquent behavior; (d) with somatic symptoms; and (e) with neurotic-like behavior.

Use of this classification led to a greater focus on the treatment and personality factors, rather than on behavioral and prepsychotic patterns which have been so clearly described in the literature(5, 6, 7, 8).

The severity of illness at the time of referral was not in itself prognostic. In the most improved group, 4 were initially autistic, and 5 demonstrated fragmented ego development. These 9 children were at the sickest, most overtly psychotic level at the start of treatment. None started at the highest neurotic-like level; 9 of these 10 children had advanced to a symptomless or a neurotic-like level. In comparison, in the least improved group, 5 started treatment at the 2 sickest subcategories, 2 were delinquent schizophrenics, and 3 started at the highest neurotic-like level. Nevertheless at the time of this study, all 10 children had either lost ground or remained fixed at their level, and none was in the neurotic-like category.

The following are examples of most and least improved cases and also exemplify some of our diagnostic subcategories.

Peter, a Type A autistic or pseudoretarded child at the start of treatment, was born to a highly intellectual woman who had a graduate degree. She divorced her husband who later

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remarried. Peter's I.Q. was recorded as 30 and he was placed in a private institution for retarded children when he was 27 months old. He was mute, lacked coordinated motor behavior, appeared oblivious to human contact, and sat staring into space. Because of the severity of his symptoms, he was considered hopelessly impaired, and brain damage was postulated in spite of a negative neurologic study. Because his family did not visit, members of the institution staff took him to their homes some weekends. Apparently in response to this staff interest, he improved and his father was informed that Peter now appeared bizarre and psychotic rather than retarded. He left the institution at age 7 to live with father and his second wife. She had a special gift and interest in rescuing the unfortunate, and became devoted to Peter as well as to her 2 normal children of this marriage. Peter and stepmother were seen in therapy for 2½ years.

Peter grew less bizarre and withdrawn. He became voracious and demanding of human contact, learning, and food. During therapy sessions he responded to minor frustrations by trying to throw himself over a banister. When he improved sufficiently to start school, he spent only 6 weeks in the first grade and was promoted to the second grade because he quickly learned the work and shouted out the answers. He continued to improve, made friends and developed a variety of interests. At follow-up 3 years after termination of treatment, he was observed as "bossy," and is considered "brilliant" by his 5th grade teacher. He is a leader in his boy scout troop and capable of warm relationships to others.

This next case took the opposite direction going from neurotic-like to severely psychotic because treatment was prematurely interrupted and the degree of emotional investment in therapy was insufficient.

Alfredo was brought to treatment at 8.8 years because he was withdrawn, nervous and disobedient. He was interested in music and listening to mystery stories. At age 3 in nursery school he was considered an odd and withdrawn child but had maintained himself until the spring before the start of treatment. He developed eye blinking, nail biting, nocturnal enuresis, restless sleep and night terrors. He had many fears of sickness and death, threatened to commit suicide and wanted reassurance that his parents loved him. In spite of these difficulties, he was in the fourth grade making excellent grades.

With 5 years of treatment, he improved, had less difficulty sleeping, learned to play with

other children, joined the scouts, and became interested in going places and doing things. Although it was evident to his therapist that his underlying paranoid structure still persisted, he seemed to arrive at a plateau of social adjustment; but because of pressure from the clinic to close cases in order to open intake, Alfredo was discharged without completion of treatment. Although his mother had been in treatment, she was highly ambivalent about her involvement. Follow-up 4 years later revealed that although he had finished high school, he regressed, was hospitalized and is now in a back ward of a state hospital in a hebephrenic state, incontinent, uncommunicative, and out of contact.

4. *Diagnostic subcategory of the parents.* Classification of the parents according to their manifest personality structure(9) revealed no significant difference at the start of treatment between the 2 groups.

5. *Length of treatment.* Although these children and their parents usually required long term treatment, length of treatment was not positively correlated with improvement. The average duration in the most improved group was 3 years (37.1 months) and about 5 years (57.6 months) for the least improved group. The distribution is skewed because some of the least improved cases were treated in institutions for as long as 12 years. It is our experience that the length of treatment for successful cases is highly individual and in rare cases improvement takes place within a year, more frequently it is longer term extending up to 15 years.

6. *Frequency of treatment.* Although a few of the children were seen 3-5 times a week, most of the children and parents, in both groups, were seen at the same frequency of 1-2 times a week.

7. *Number of therapists.* Seven of the 10 most improved children had one therapist, the remaining 3 had 2 therapists; in contrast, only 3 of the least improved had 1 therapist, 1 had 2, 2 had 3 and the remaining 4 had 5 therapists in succession. In addition to the greater number of therapists in the least improved, the shifts from 1 therapist to another were more disruptive to the child. In the 3 improved cases where there were 2 therapists, the shift was planned and provided a continuity of treatment.

8. *Regularly scheduled and maintained therapy sessions on the part of the therapist.* Nine of the 10 children who improved most were at the highest level of regularly maintained schedule of treatment sessions; whereas only 3 of the least improved children had this level of regularity of therapy; the other 7 had many gaps in treatment and more cancellations by the therapist.

9. *Emotional investment of therapist in treatment of the individual case.* (a) Children.—Ratings of the emotional investment of the therapist revealed that all 10 of the most improved children rated at the highest point in the rating scale. Only 4 of the least improved children rated at this high level. (b) Parents.—There was no significant difference in the therapist's emotional investment in the treatment of either group of parents.

10. *Family regularity in keeping appointments.* There was no significant difference in the regularity of appointments in the families of the 2 groups of children.

11. *Reaction of the family to improvement in the child.* When we tabulated the reactions of parent or parent substitutes to improvement in the child, 7 of the 10 cases most improved had emotional support for positive change, while only 1 family of the 10 least improved children was supportive of positive change. There was gross evidence of undermining of treatment in this latter group but much less in the cases which improved. The following is an example of the type of gross undermining which we have observed :

A 14-year-old boy was placed in a foster home when the parents were too frightened of him to keep him at home. As the child improved, in contrast to their previous positive comments about the foster home, the parents complained that the cultural standards were not high enough : there was not enough interest in art and music. They turned the child against the foster parents with whom he had now developed a positive relationship. In successive placements the child developed a positive relationship with improvement, the parent disrupted the treatment, forcing a change in setting or therapist.

It is our impression that because parents of schizophrenic children use their child as a defense against their own anxiety, they

undermine improvement at certain stages of treatment. In cases which improve, we find the parents have achieved adequate security to become more free of this pathologic entanglement with their child.

12. *Adjuncts to treatment.* Various adjunctive treatments were utilized, such as school, special group, inpatient institutions, foster homes and camps. There were 24 such facilities used for the children who showed the least improvement and 13 for those most improved. The next finding points up that adjuncts without synchronization may be meaningless.

13. *Synchronization of treatment components.* When we rated the degree of synchronization of therapy of child and parents and the integration of adjunctive treatment by the therapist, 8 of the 10 children who improved the most rated at the highest level and the other 2 were near this level. Three of the children who improved least rated at the highest level of synchronization and 7 rated at low levels.

14. *Major changes in the immediate family group during treatment.* There were major changes in the family environment of 6 of the 10 most improved schizophrenic children. For example, in one family, the father died and mother married a new healthier husband who was considerable help to the child. In 3 other instances, the child was permanently removed and placed in foster families. In 2 of the 10 least improved children, there were changes which were not necessarily helpful. There was a divorce in 1 family and the father, who was the major support of another child, died.

DISCUSSION

Certain factors differentiated the most improved from the least improved. The combined presence of the following items appears to foster optimal therapeutic results. We realize that these factors may not be all inclusive. Omitted are such important considerations as the experience and skill of the therapist :

1. *Emotional investment of the therapist.* We find that the quality of the therapist's countertransference and his belief and expectation in the child's capacity to improve, have significant bearing on results. Unless the therapist is strongly invested in

the treatment of the particular child, he is unable to offer the kind of emotional interaction which has been lacking in the child's prior relationships and which the child requires to improve. Because of their painful experiences, these children have not made a sufficient tie to human beings. The emotional investment of the therapist and other participants in the treatment plan motivate him to try once more.

2. *Lack of change of therapist.* In contrast to the multiple therapists in the unimproved cases, the improved cases had either 1, or at most 2 therapists. Continuity can be maintained with a shift in therapist if the shift is part of the treatment plan. For example, occasionally children seem unable to advance from a regressed therapeutic relationship with a therapist from whom they received the kind of direct emotional gratification that is necessary in the beginning stages of treatment. Transfer to a new therapist may be necessary. However, when transfer occurs for reasons outside of the treatment needs of child and parents, it may be extremely disruptive to progress. Schizophrenic pathology includes problems in reality testing concerning the existence of a love object or person. Shifts in therapists add to the child's confusion as to who is there in reality and who is not.

3. *Synchronization of treatment components.* In our experience, it is of prime importance for the therapist to take active responsibility for synchronizing the total therapy and offering support to the various participants. This may include regular meetings with supportive representatives in the child's environment, such as foster parents, teacher, leader of special play groups formed around the needs of the child, scout masters or the staffs of social agencies who have some kind of responsibility for the child. In such synchronization the therapists' goals include: (a) interpretation of the child's behavior and support to the above individuals who may otherwise become discouraged or made so anxious by the child that they become immobilized in their efforts to help him; and (b) clarification of the roles, integration of the approaches to the child in order to minimize conflict between the participants, or disruption of the various components of

the treatment. This integration of therapeutic forces is perceived by the child as providing the security of a unified environment, and counteracts his fear of fragmentation and disintegration.

4. *Parental support for improvement in the child.* Even when therapy is optimal from the point of view of synchronization, investment, and continuity, progress goes awry unless the child has emotional support for positive changes from his parents or substitute parents. In treating the parents, it seems essential to recognize the role the child's pathology plays in protecting other family members against their own anxieties, and to anticipate the inevitable resistances to change. In cases where the child greatly improved, the parents gained sufficient support from their own therapy to become able to offer him a more positive relationship.

CONCLUSION

It appears that with so severe an illness as childhood schizophrenia, the absence of any one of the following 3 environmental supports: competent psychotherapy, positive parental attitudes, strong adjunctive therapy, such as school or day care, may tip the balance against improvement.

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DISCUSSION OF PREVIOUS TWO PAPERS

S. A. SZUREK, M.D. (San Francisco, Calif.).—These papers illustrate two of the several types of approach to the study of the psychoses of childhood. They characterize more or less the burgeoning literature of the last decade and a half of about a half-century of the history of our acquaintance with this subject, particularly in this country. One of these papers represents the increasing number of clinicians in child psychiatry with progressively greater training, experience and interest in psychoanalytic, or, more generally, in psychological modes of therapeutic research. Such clinicians have with increasing persistence applied their resulting skills to this severe, complex, still puzzling and prognostically grave disorder or group of syndromes. Such prolonged studies—a new form of the longitudinal approach—are efforts to explore the limits of the psychogenic theory. The other report is an example of the primarily cross-sectional method. It is, however, sophisticated in present day awareness of the psychosocial factors contributing to personality development and maldevelopment. Yet it seeks differential information to estimate the relative importance of etiological contributions from the two logically possible sources, namely, inherited or acquired somatic disease and postnatal experience.

I wish to comment briefly regarding historical perspectives. Until 1941, the year of publication of Charles Bradley's book on childhood schizophrenia, the literature was, especially in this country, relatively small. In the decade from 1946 to 1956, one survey¹ listed 542 titles, and the past 5 years have probably witnessed a similar growth. Amid considerable doubt among psychiatrists about the very existence of a psychotic disorder in early childhood and in the prepubertal years of life, the students of childhood have, I think, established the fact of such disorders, albeit with debate continuing regarding nosology, etiology and therapeutics.

¹ Ekstein, R., Bryant, K., and Friedman, S. W. : *Childhood Schizophrenia and Allied Conditions*. In Bellak, Leopold (Ed.) : *Schizophrenia : A Review of the Syndrome*. New York : Logos Press, 1958, p. 555.

Recent contributions from genetic studies, from neurophysiology, biochemistry and other basic sciences have given fresh impetus to the search for somatic etiological factors. The continuing work of clinicians, on the other hand, has uncovered a considerable variety of syndromes, of onsets and of clinical course, of related psychosocial factors and sometimes of associated definable organic disease. Among these clinicians the more psychologically minded have emphasized the great variety and severity of parental disturbance, perhaps always manifested in intrafamilial disorder.

As might be expected, the whole range of the available therapeutic armamentarium has been and is being studied : the somatic treatment of various kinds of shock, and of drugs, and psychological therapy of varying degrees of intensiveness and duration performed more or less eclectically or guided by various theories, alone or in combination with somatic treatment. The psychological therapeutic efforts have been made directly with the child patient in and outside of institutions, with or without concomitant psychotherapeutic work with the parent or parents. Difficult problems of differentiating the psychotic syndrome from mental deficiency, from obscure, or insidiously developing, definable disease of the nervous system, especially in the earlier years of life, are present.

Let us consider the Ittleson paper first. Many workers in this field have for some years come to expect that reports from this center under Dr. Goldfarb's directorship will be concise, well-written documentations of pieces of work which are often ingeniously designed tests of various theorems derived with considerable logical rigor from clearly stated assumptions. The paper read by Dr. Meyers, no exception to this tradition, gives us a glimpse of one of the many aspects of a continuous and rather systematic program of research pursued with persistence and considerable imagination. It has been a pleasure to read the orderly presentation of the data obtained, the authors' careful assessments of the relevance to their hypotheses, their cautious conclusions, their judicious acknowledgement of limitations, their reservations regarding the size of the sample and their discussion relating it to the experience and ideas of other observers.

There can be no question concerning the basic effort in this research to examine the logical possibility that there are heterogeneous etiological factors operating in different degrees in different patients. There may be, however, some question concerning the criterion used to make the basic division of the sample into the

"organic" and the "non-organic" subgroups. That there is a considerable proportion of writers who make no mention of the "soft" and "equivocal" neurological signs and suggestive history may be an indication of their reservation about the validity of these criteria as indicators of disease of the central nervous system. The authors use quotation marks around the words organic and non-organic throughout their paper. Further, they express the attitude that these signs and historical data are "suggestive," "transient," and "subtle" indicators of neurological impairment.

All this does not, of course, invalidate the possibility that these signs *do* indicate such organic impairment. Nor does it preclude the possibility that organic impairment may be one day more directly substantiated. Moreover, these considerations do not reduce the value of any effort such as this one to examine all available correlative information concerning this possibility. Also the data tend in almost all respects to support the probability that there are significant differences between the 2 groups. Therefore, it seems as if 2 subgroups have been separated from the total sample studied. Further, the data regarding differences here reported, that is in parental disorder, in the number and degree of disorder in the siblings of the patients, and in the kind of family interrelationships are, I think, concordant with the observations of other students.

The critical point here is, therefore, perhaps only whether or not such data as obtained in this cross-sectional study would support the same thesis if examined in the light of supplemental information from the same families as to the chronological order of events in each family. As I have said, variations have been observed by others in form and in severity of the child's symptomatology, and these seem related to the form and severity of his parents' disorder, to the degree of disorder of the siblings, to the number of the siblings affected and particularly their ordinal position in the sibship in relation to the patient. These differences appear also related not only to the degree and form of intrafamilial equilibrium within any one family, but also consonant with the differences observed between various families. Such observations seem particularly clear in the course of prolonged longitudinal and especially therapeutic studies. Such variations in history of the family in such studies can be often related to the degree, kind and duration of the premarital neurotic disorder of each parent, to the stresses external as well as internal to the family after their marriage, or as expressions of the interaction of all of these factors, particu-

larly prior to and after the child patient's birth and that of those of his siblings affected by the disorder. These variations are also seen clearly related to therapeutic procedures. It goes almost without saying that such changes in both the history and in the period during therapy may be either in an integrative or malintegrative direction.

These questions concerning interpretation or the significance of the findings reported in this study have, of course, no bearing on their value as additional information for this problem. As a model of design of a study and of clear reasoning about the data, this paper is an encouragement to other students to work in the same way and direction and it is a portent of the quality of the work we may expect from the authors in the future.

The paper by Dr. Kaufman and his collaborators is an effort to assess the relative influence of factors which affect the progress of the psychotherapeutic approach to these disorders. It is an indication, too, that the number of these children with whom this kind of work has been done, and for a long enough time (12 years with one patient in the group reported here) by individual therapists and groups of therapists in various centers, may be sufficient to subject the experience to comparison and some analysis.

Such psychotherapeutic efforts have, I think, been at times misunderstood by some as expressions of rather naive optimism which disregards or blinds itself to the other theoretical possibility of the presence of somatic etiological factors. The work, however—if I surmise correctly the intent and theoretical position of the authors, of other colleagues similarly engaged, or if I may speak for myself—with an eye as to how the biochemist is coming along and with close repeated study of the somatic condition of patients is an attempt as far as present knowledge and current opportunities permit to discern those factors within the psychological domain which affect negatively or positively their experiment within this hypothesis. If the negative factors could be identified, estimated and eventually reduced or eliminated, then the results of such purely psychological therapeutic experiments would contribute their share of data towards the final answer as to etiology, nosology and hence towards more rational therapeutics.

The relatively small number of children markedly improved towards integration, and a larger number of somewhat improved or transiently improved have led the most experienced of these clinicians to study reflectively the various factors in their own accumulating clinical

experience for further insights and possible improvement of their own methods. They, more than colleagues who are less inclined towards the psychogenic possibilities, are well aware of the inadequacies of their own methods, the innumerable gross and subtle factors operating negatively in their experiment within the hypothesis.

Among these is the enormous amount of time needed to acquire the experience and skill to begin the labor of understanding the nature and depth of the psychopathology not merely in some intellectual and theoretical sense but in the fully emotionally integrated sense which has some chance of being translated into a beginning of a workable therapeutic situation with any individual patient. Even after this has begun to be possible with a given child the extremely sensitive and generally tenuous nature of the rapport often eventuates in a violent or subtly persistent withdrawal of the patient to even a slight variation in therapist's attention or affective attitude, or in reaction to some events outside of the therapeutic situation. Similarly great periods of time are needed for working through details of the transference after a fairly resilient therapeutic situation has been established. If the experience of therapists in other centers is at all like our own then repeatedly there are self-examinations as to whether a still greater frequency of sessions, more sensitive skill, earlier in the child's disorder or a longer duration might not have resulted in a critically more solid and durable integration than actually has occurred. Similarly searching questions of adequacy may be applicable to the work with the parents and to the work of other professions with the child in the hospital, such as the nurse, the teacher, the occupational or recreational therapist.

I shall only mention the other important problem of integration of the work of all professional personnel of the staff in their common yet differentiated tasks with the child and his parents towards the goal of reversing the deeply pathological vicious circles in each of them. In all this the immense difficulty of maintaining a sufficient continuity of the same personnel with a given child and his family can hardly be underestimated. The time lost with each inevitable change of therapist or of nurse

by reason of the patient's regressions and of the need for each new person to establish himself with the child or parents seems sometimes incalculably tragic. Yet more and more centers with more psychotherapeutically experienced personnel are taking a backward look at their experience and wherever possible applying available or designed yardsticks in the effort carefully to see if any generalizations can be made. I do not need to comment about the very difficult problem of designing units of measurement with which all workers would agree—and especially about the relevance for the quality of human psychological health or integration of any simply determinable, quantitative factor. Nevertheless, many clinicians are constantly striving in this direction because of understandable desire for comparability of their own experiences and with those of others.

The 14 factors here used, perhaps not equally easily and equally reliably quantified, are in the direction of such a self-critical inquiry into the possibly discriminable elements of each of essentially 3 aspects which are functionally almost inextricably interrelated in an extremely complex field. These aspects operate within and outside the therapeutic situation in either direction as far as reduction of the disorder is concerned. The 3 aspects I have in mind are: 1) those from the side of the patient and his family; 2) those from the side of therapists; and 3) those from the changing circumstances of the work.

The major point of this study—which is in agreement with the experience of other clinicians—is that purely psychological therapy does affect some change towards integration in many children with this disorder and in a few to a considerable degree. With the final impressions of the authors regarding the 4 factors, the combined presence of which fosters optimal therapeutic results, I think our own experience at Langley Porter Neuropsychiatric Institute in San Francisco would be in general agreement. I surmise also that the present authors, along with others working in the same way, would wish to use past experience to test the efficacy of still greater intensiveness of therapy with patient and parents and greater precision and integration of so-called adjunctive, milieu work in the future.

SCHIZOPHRENIA ON DUTY¹

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Although numerous papers describing the prognosis and course of schizophrenia have appeared in the literature, only a few have been concerned with schizophrenic reactions in the military population (1-8). It has been suggested (2, 3) that schizophrenic reactions in the armed forces may include a larger percentage of benign disorders, implying that the schizophrenic serviceman is a breed apart, characteristically with a good prognosis. In this study we are examining the healthiest of this breed, servicemen who not only achieved remission from psychosis, but were continued on duty in the military setting.

The population is all male military patients diagnosed schizophrenic reaction and returned to duty from Walter Reed General Hospital during the years 1956, 1957 and 1958. For each man the prognosis was that he could return to duty and accomplish reintegration into his former occupational and social milieu. We have the opportunity to examine the validity of this prediction, which is considered to have been correct if the patient continued on active duty for 24 months or if he were routinely discharged after completion of his obligated service like any other serviceman.

DIAGNOSTIC CRITERIA

The criteria used in the diagnosis of schizophrenic reactions are found in the Joint Armed Forces publication, *Nomenclature and Method of Recording Psychiatric Conditions* (9). In general these standards follow those of Bleuler, with emphasis on the presence of a fundamental disturbance of reality relationships, concept formation, affectual behavior, and stream of thought. Within this diagnostic system it is not essential to forcibly classify patients accord-

ing to a Kraepelinian type or presume an eventual deteriorating course. The schizophrenic reaction types are: simple, hebephrenic, catatonic, paranoid, latent, and elsewhere classified. All reaction types except latent are designated as acute or chronic, and mild, moderate or severe.

During 3 years, 1956-58, 2302 active duty male military patients were evaluated and discharged from the psychiatry service at Walter Reed General Hospital; 784 were diagnosed schizophrenic reaction, and of these, 727 (92.7%) improved sufficiently to be released to their own care; 201 (25.6%) of the 784 were returned to duty in good remission, fit for service and eligible for reenlistment; 524 (66.8%) were medically separated for mental disability; and 59 (7.5%) received other types of disposition, such as, dropped from the rolls because of AWOL, transferred to another hospital before completion of treatment, or released to another agency for disposition, e.g., return to National Guard. This study concerns the 201 men returned to duty.

Clinical health records and personnel files were evaluated for each serviceman. The health record describes hospitalizations and visits to sick call and clinics. The personnel file contains a record of educational achievements, employment experiences, Armed Forces classification test scores, assignments, combat experiences, commendations, decorations, civilian and military crimes, enlistment and discharge record, and efficiency ratings.

For each man on duty a current evaluation of efficiency was obtained from his commanding officer. For those who were out of service, Veterans Administration records of disability claims, outpatient visits, hospitalizations and other available medical reports were obtained. Patients temporarily retired from active duty for a psychiatric disability were periodically re-evaluated, and these records are part of their permanent medical files. The data from these

¹ Read at the 117th annual meeting of The American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

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various sources provide a 24-month, longitudinal, post-Walter Reed follow-up for each man. Each was sent a questionnaire; however, data from these will not be presented here.

DEMOGRAPHIC DATA

Enlisted vs Officer	182 enlisted men - 19 officers
Grade (Rank)	Recruit—Master Sergeant; Warrant Officer—Lieutenant Colonel
Branch of Service	144 Army; 57 Air Force
Length of Service	2 days-19 years (Mean=6.8 years)
Age	17-49 (Mean=27.9)
Race	55 Negro; 146 Caucasian
Marital Status	103 single; 98 married
Education	4-20 years (Mean=11.2 years)

The diagnostic types of schizophrenic reactions were: paranoid, 61%; catatonic, 4%; latent, 6%; and N.E.C. (mixed), 28%. All cases except those diagnosed latent were in a general sense acute in onset; 10% were rated as mild; 33% as moderate; and 50% as severe.

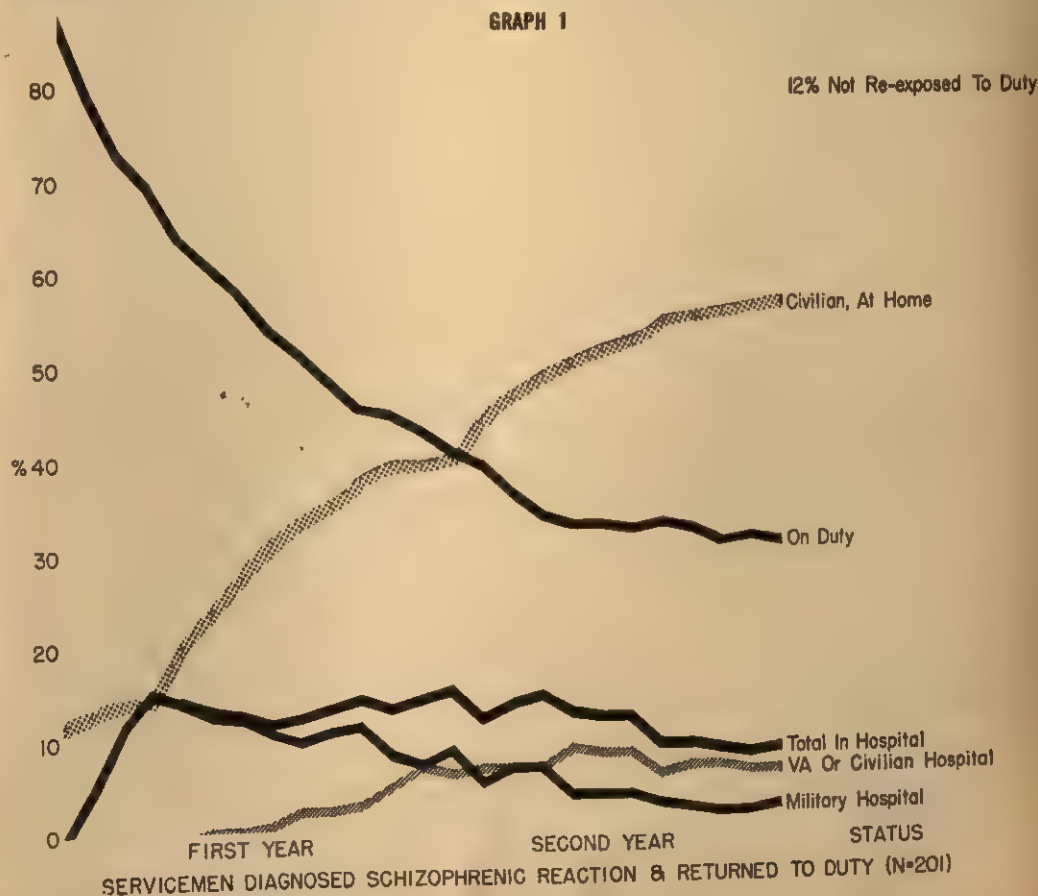
Clinical records indicated a pre-psychotic schizoid adjustment pattern in 18%; chronic or recurrent acting out in 8%; chronic or recurrent neurotic symptomatology in 6%; and no clearly-defined abnormality in pre-morbid personality in 67%. An identifiable, and possibly precipitating event, such as marriage, engagement, separation from wife and family, other specific loss, transfer, courts-martial, *etc.*, was present in 27%.

Treatment was intensive and broad in scope, utilizing psychopharmacologic agents, electroconvulsive therapy, individual and group psychotherapy, recreational, occupational and work therapy, and incorporated some of the principles of milieu therapy as described by Artiss (6, 7, 10).

The average hospitalization prior to the follow-up was 101 days, with 5 servicemen hospitalized less than 30 days and 16 longer than 180 days.

24-MONTH FOLLOW-UP

Graph 1 portrays the percentage of men



on duty, in civilian life and in the hospital, plotted over the 24-month course. The percentage of men in the hospital declines from 15% at 3 months, to 9% at 24 months.

Two years after return to duty the military status or type of disposition from service was categorized as follows:

1. *Disability Group.* Sixty-six men (33%) suffered a relapse or other decompensation necessitating rehospitalization and discharge from the service for mental disability. Following their initial release from WRGH, they completed an average of 9% months of duty, 5 of which were on the job, and 4% of which were in military hospitals. At the time of their medical separation, 62 were released to their own care, and 4 were directly transferred to Veterans Administration hospitals. Twenty-five of the 62 required civilian rehospitalization after discharge from the service. During the 2 years the combined military and civilian rehospitalization for the entire *Disability Group* was 106.4 days per man per year. Total days lost, which includes AWOL and incarceration as well as hospitalization, was essentially the same.

2. *Inept Group.* Thirteen men (6%) had been administratively discharged from the service because of ineptness or low intelligence scores, or for reasons other than the schizophrenic process. Hospitalization days during the 2 years were 13 per man per year, and the total days lost were 45 per man per year.

3. *Completed Service Group.* Fifty-three men (26%) had been discharged at expiration of term of service (ETS). Demographically this was the most deviant group. Its members tended to be single, younger, and had less time in service. Almost none had combat experience, as opposed to 30-50% in the other dispositional subgroups. Hospitalization and total days lost will be considered later.

4. *Duty Group.* Sixty-nine men (34%) were still on active duty. Of these, 13 had been hospitalized, and 7 had sustained disciplinary action (e.g., reprimand for AWOL). Hospital days were 13.5 per man per year, with an additional 2 days lost to AWOL and/or stockade time.

Analysis of these dispositional subgroups reveals that those who remained on duty

for 24 months were significantly older, with significantly higher rank and longer term of service than the other schizophrenic servicemen returned to duty. They also had accrued more military citations and awards, and were significantly more frequently married than the servicemen of other subgroups. Race, level of educational achievement, premorbid personality pattern, self-referral, existence of precipitating events, type of diagnosis, length and course of Walter Reed hospitalization, and previous psychotic episodes did not reliably discriminate among dispositional subgroups.

Of those men discharged at the expiration of term of service, 24 were not reassigned to duty because of the closeness of their expected date of expiration of term of service and their desire not to re-enlist. The remaining 177 men were reassigned to duty and thus tested the prediction of a favorable outcome on duty. This prediction of reintegration was correct in 55%.

Although such factors as age, rank, length of service, and marital status did vary systematically among the 4 dispositional subgroups, only longer length of service was statistically significant relative to correctly predicting reintegration on duty.

The longitudinal follow-up demonstrated that during the first 3 months of return to duty, 40 men had some difficulty in readjusting to military life, as evidenced by rehospitalization or disciplinary action and of these 40 men, 37 (92.5%) were separated. During the first 6 months, a total of 60 men showed this evidence of failure to adjust, and of these, 53 (88.3%) were separated.

Twenty-nine men were reassigned and completed an average of 8.4 months of duty per man before the expiration of their obligated term of service. During that continuance in service they had few lost days, none due to military rehospitalization and 1.5 days per man per year due to unexcused loss of time. In the 2-year follow-up period, 3 civilian rehospitalizations resulted in 6.7 hospital days per man per year.

In contrast, 24 men reached the expiration of their obligated service time while they were in the hospital, did not re-enlist, and were discharged from the service directly after release from the hospital. These

24 were not re-exposed to duty. The number of hospital days per man for the 2 years of civilian life was 33.8 days per year.

These 2 groups were essentially identical in age, rank, length of service and personality patterns. All underwent a schizophrenic break in this service, and the same prognosis was given both groups. The comparison of number of hospital days per man in these 2 groups brings into question the speculation(2, 3) that the stresses of military life are more apt to precipitate schizophrenic psychoses than the stresses of civilian life.

Performance studies on unselected draftees and paroles to the Army(11), enlisted men originally rejected for neuropsychiatric reasons and subsequently inducted(12), and inductees in general(13, 14, 15) allow the overall estimate that approximately 90% perform military service without undue difficulty. Comparison with this overall rate of effectiveness in unselected groups allows us to judge the effectiveness of the group of schizophrenic servicemen who were able to reintegrate into military life.

In the group successfully predicted to remain on duty, 92% showed no AWOL's or other behavior necessitating disciplinary action; 87% were not rehospitalized.

There are 60 men remaining on active duty to the present time. Half of them are in supervisory positions, and there is no discernible favoring of any particular type of job. Unit commanders have furnished us with a performance rating and other current information in 56 cases. Eighty-eight percent are seen as average or better in terms of useful and effective work, motivation, emotional stability, and social adjustment. The performance rating for each man was the average of 4 ratings, using the scale, 1=poor, 2=below average, 3=average, 4=above average. The mean performance rating is 3.112. There is no difference in rating between those who were or were not rehospitalized. However, those who had sustained some disciplinary action are rated lower. Downgrading is also evident when the rating officer was aware of "nervous complaints." This contrasted with average or better ratings given when the rater was aware of "physical complaints" or no complaints.

DISCUSSION

Characteristically, research dealing with prognosis in schizophrenia has used the criteria of clinical outcome, *e.g.*, improvement in the hospital, ability to leave and/or remain out of the hospital, few or no exacerbations. By studying a military population, this investigation has been able to use the more inclusive criterion of "reintegration into premorbid environment," with the objectivity of documented performance of duty and the operational use of recorded command and clinical decisions.

The prediction of favorable outcome for men returned to duty, according to Armed Forces policy, implies the expectation of adequate performance in the broad sense of occupational and social reintegration. Extensive observing and recording systems of the Armed Forces, including areas of both clinical and field information, provide documentation of individuals' personal adjustment and duty performance in such a way as to permit relatively detailed evaluation of past and concurrent events important to follow-up study. It is conceivable that in the future this repository of documents could be refined into an active system for recording data about the natural histories of all schizophrenic (and/or other) disorders which occur in the military.

Returning to duty a group of men with potentially recurrent illness involves obvious risk. The further course of the schizophrenic syndrome in these men was remarkably varied, with some characterized by recurrent psychotic episodes, some by recurrent antisocial behavior, and others by relatively uneventful reintegration on duty. We have not been able to demonstrate means of identifying, on release from hospital, the schizophrenic person who will reintegrate. It remains for those supervisors and physicians in the field to identify our unsuccessful predictions. In this series of cases, recurrences of emotional and behavioral problems have been met, for the most part, by early recognition and prompt management.

That some schizophrenic servicemen can be and have been successfully returned to duty is no longer in question. This study provides a rational basis for the expectation

of average performance from those who do reintegrate into military life.

SUMMARY

In terms of percentage, given 100 men found to have schizophrenia while in military service and hospitalized at an Army neuropsychiatric treatment center, 93 improved sufficiently to be released to their own care; 25 were returned to active duty; 14 remained on the job until completion of obligated service or for more than 2 years; 12 of these were rated as average or better by the using agency in terms of effective work and adequate social adjustment.

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SENSORY DEPRIVATION UNDER NULL-GRAVITY CONDITIONS¹

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In the near future a manned space vehicle will be launched. Rapid technological advances promise progressively longer flights including explorations of other planets. Individuals selected for these ventures will be exposed to such stresses as high accelerative forces, weightlessness, prolonged loud noises, vibration, radiation hazards, constant danger, confinement, monotony, isolation and sensory alteration with a lowering of sensory input. It is with these latter 4 stresses that the present study is concerned.

A review of the biographical and anecdotal accounts of men who have been alone and isolated at sea on rafts or in the Antarctic, reveal that many of them reacted with profound psychological alterations. At times these changes were perceptual with the person experiencing visual or auditory hallucinations. On other occasions there was intellectual impairment with an inability to concentrate and a decreased verbalization for fear that this decrement in intellectual power might be revealed. At still other times changes occurred in mood with deep feelings of loneliness and depression.

In recent years an interest has developed in trying to simulate these conditions of isolation and sensory deprivation. One of the earliest reports came from the McGill studies(1). Subjects lay on a bed in a small room while a constant white noise was present and visual input was depatterned by use of translucent goggles. Cotton gloves and cardboard cuffs reduced tactile stimulation. Subjects experienced vivid hallucinations and showed intellectual impairment. A later study by Vernon(2) was conducted in a dark, soundproof room. The subjects wore earplugs and cardboard gauntlets, but had more freedom of move-

ment than those in the McGill study. These subjects denied perceptual change and intellectual impairment was not found by testing. Lilly(3) at NIMH suspended his subject in a tank of water with temperature held constant at 34.5° C. The subject wore only a headmask which blacked out vision. Vivid hallucinations occurred in 2½ to 3 hours. Subsequent experiments by Shurley(4) at Oklahoma, also using the water immersion method, have revealed that many subjects developed hallucinations and hallucination-like experiences. The isolation studies performed by Ruff, Levy and Thaler(5) at the Aero Medical Laboratory used mostly Air Force personnel. Subjects were placed in a soundproof room with vision input either depatterned by translucent goggles or blacked out with masks. These studies did not show the dramatic perceptual changes and hallucinations that were reported by the other experimenters.

METHODS

This present study was designed to study the psychophysiological reactions of Air Force pilots to sensory deprivation using a water immersion method in order to minimize sensory input. The subjects, wearing only a modified pressure helmet and urinary collection device, were submerged in a tank which measured 8 ft. long, 2½ ft. wide and 4 ft. deep. Temperature of the water was maintained between 90°-93° F. by a flow of warm water into the tank. A regulator on the helmet permitted balanced air pressures for the submerged subjects. Light was excluded and except for the monotonous hum of the air blower and the flow of air into the helmet, no sounds were present. Subjects lay on a webbed lounge chair in a semireclining supine position. Because of the buoyancy of the body in water, the musculo-skeletal system approached a weightless state. A pulley tie down was necessary to counterbalance the buoyancy of the helmet. A small tube in the helmet allowed the subjects to drink water from a bottle. Twenty-four gauge needle

¹ Read at the 117th annual meeting of The American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

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electrodes were used as EEG sensors, small surface electrodes in the mid-axillary line for ECG and respiratory sensors. Subjects were instructed to move as little as possible and to describe freely all their thoughts and feelings. A microphone in the helmet permitted all verbalizations to be recorded and cognitive function as measured by the Watson-Glaser Deduction Test and Robinson Rhymes Test was assessed before and after the experiments. All subjects were interviewed after the experiment by a psychiatrist for reactions to the experimental situation.

RESULTS

The 10-hour period of sensory deprivation was initiated with 14 volunteers, 4 of whom aborted the mission within 2 hours because of leaks into the helmet or inability to void. Of the remaining 10 subjects, 6 aborted between 6 and 10 hours because of nausea or pain in the neck, eyes, back or head.

TABLE 1

Reactions to Sensory Deprivation 10 Subjects—6-10 Hours

1. Time disorientation :	10
2. Decrement in concentration :	7
3. Thoughts self-directed :	10
4. Daydreams and search for stimuli :	6
5. Unrealistic thinking :	3
6. Imagery :	6
7. Affective States :	
(a) Loneliness :	5
(b) Feelings of confinement :	6
(c) Boredom :	10
(d) Apprehension :	8
(e) Irritation :	8
8. Need for movement and tasks :	10
9. Sleep :	
(a) Subjective :	7
(b) Objective by EEG :	5

Behaviorial reactions. Table 1 summarizes the behavioral reactions experienced by the subjects. These are grouped into 9 categories :

1. *Time disorientation.* There was preoccupation by all subjects with time. The subjects controlled the anxiety growing out of the loss of time orientation by three techniques : counting numbers, counting

heart beats, and guessing when the experiment would end. They would, however, subtract an epoch from their first approximation in order to avoid the anxiety generated by being confined past the hoped for time of release. This technique was successful in that upon completion of the experiment most subjects thought less time had elapsed than actually had. Another interesting phenomenon was that toward the end of the experiment, time was experienced as passing more rapidly than it was occurring.

2. *Decrement in concentration.* Seven of the 10 subjects reported a decrease in their ability to concentrate. This impairment was of such proportion in one subject that he could not remember the Lord's Prayer or a familiar hymn. Another reported that for several hours after the experiment his mind seemed "blank" necessitating that he visually focus on an object in order to concentrate effectively. In general, the altered concentration was in the form of thought processes being accelerated, moving rapidly from one subject to another. Although subjectively experienced by most subjects, this altered thinking was not revealed by the two cognitive function tests administered after the experiment (Table 2). Possibly this cognitive alteration was only a subjective experience or perhaps the tests administered did not adequately measure this change, or that with reintroduction of meaningful stimuli, the normal intellectual function was quickly regained.

3. *Thoughts self-directed.* Although the subjects were specifically encouraged to talk freely during the experimental period, there was a tendency for some to talk very little, one individual saying but 30 words during his entire 6 hours in the tank. These individuals rationalized their hesitancy in various ways. In several, further inquiry revealed heavily charged emotional situations, such as a fight to reject unwanted thoughts, imagery, or feelings of claustrophobia. For most subjects there was a turning inward on the self with a great preoccupation with the body and its state of comfort. Table 3 reflects this somatic preoccupation which in 7 subjects amounted to 80% or more of all their verbalizations. During the early stages of the experiment, some of the thoughts

TABLE 2
Cognitive Function After Sensory Deprivation

SUBJECT	AGE	WATSON-GLASER NUMBER WRONG		ROBINSON RHYMES NUMBER WRONG	
		CONTROL	TEST	CONTROL	TEST
A	30	A2	* B7	A1	* B1
B	30	* B4	A3	A3	B5
C	38	A2	* B5	A0	* B1
D	32	* B3	A2	* B0	A1
E	31	A0	* B2	A0	* B1
F	28	A0	* B2	A2	* B1
G	35	* B7	A5	* B2	A0
H	44	* B10	A3	* B3	A2
I	30	A1	* B4	A1	* B1
J	38	* B11	A6	A1	* B1

WATSON-GLASER
Improved : 5
Worse : 5

ROBINSON RHYMES
Improved : 4
Worse : 3
Same : 3

concerned things outside the tank, but gradually the focus of attention was constricted to the boundaries of the tank. Body discomfort was more easily reported than feelings of anxiety. In the postexperimental interview, this was admitted by some. Several admitted that focusing on body discomfort had prevented the occurrence of thoughts or images which upset them.

4. *Daydreams and search for stimuli.* While most subjects had fleeting thoughts of past events and people, there was but little emotional involvement with this introspection. An active search was made for sensory stimuli, such as touching fingers together, seeking for light sources or noting the sensation of bubbles moving over the skin. Many subjects were surprised that they derived so much pleasure from these

ordinarily trivial stimuli.

5. *Unrealistic thinking.* Only 3 individuals related unrealistic and disturbing thoughts, all of which involved the body. These distortions were impressions that the body was tumbling in the water, that the head was swelling and that the needle electrodes were traversing the head.

6. *Imagery.* Although a majority of subjects reported some form of visual or auditory imagery, most experiences were without affect. Even the vivid illusion of a rattlesnake being thrown into the tank was viewed as unrealistic by the subject, and he did not become frightened. Nevertheless, this emotional detachment was not always possible for everyone and for several the images were experienced with feeling. One individual feared the images and

TABLE 3
Verbalizations in Sensory Deprivation

SUBJECT	TIME IN TANK	TOTAL NUMBER VERBALIZATIONS	% VERBALIZATIONS SOMATIC COMFORT-DISCOMFORT
A	10 hrs.	31	84
B	10 hrs.	10	80
C	8 hrs. 40 mins.	51	84
D	6 hrs. 20 mins.	28	89
E	7 hrs. 15 mins.	38	58
F	10 hrs.	209	50
G	6 hrs.	49	82
H	10 hrs.	105	85
I	7 hrs. 15 mins.	19	68
J	6 hrs. 15 mins.	8 (30 words)	37

thought that if they were "let in" he could not control them. He was able to prevent their occurrence or to dispel them by moving or looking to the side of the helmet.

7. *Affective states.* Moods varied among the subjects and also within the same subject from time to time. Loneliness was reported by 5, sense of confinement by 6, boredom by 10, apprehension by 8, and irritation by 8. In addition, several described a transient state resembling suspended animation, in which the subject did not desire to move or talk.

8. *Need for movement and tasks.* All subjects expressed a definite need for a task. Although specifically instructed not to move, no one was able to do this for more than a few minutes. Several moved almost continuously throughout the test period. Involuntary flexion of the extremities was noted in most subjects after movement had been inhibited for several minutes. In some subjects there were body image and spatial changes, so that without movement, it was difficult to know where the body limits ended. This further prompted the need for movement to reassure the self where one's extremities were in space.

9. *Sleep.* When subjects slept, they did so for short periods and only rarely reached a deep state of sleep. Reawakening followed stimulation given by involuntary movements or urgency to void. Whenever the subjects awoke from sleep they were most likely to experience increased anxiety and momentary panic. They attributed these reactions to their loss of time and spatial orientation. Quickly, however, they were able to partially reorient themselves avoiding prolonged anxiety.

Physiological and Biochemical Results. EKG, EEG, and respiration were recorded every 15 minutes. There was much intrasubject and intersubject variation for pulse and respiration responses. One subject developed a leak in the helmet after 4 hours so that we were unable to obtain pulse and respiratory measurements because of electrical interferences. For the remaining 9 subjects, only the initial 6-hour period is used for comparison. Other than an initial mean pulse rate of 79 beats per minute as compared to the experimental mean pulse rate of 68 beats per minute, there was no

consistent pattern. Both the initial mean respiration rate and the experimental mean respiration rate were 14 per minute. EEG was analyzed only for the presence or absence of sleep patterns. Although 7 subjects reported sleeping, there was EEG evidence of sleep in only five subjects.

Because of technical difficulties we were able to obtain satisfactory undiluted urine samples from only 4 subjects. These samples were bioassayed for adrenaline and nor-adrenaline in the laboratory of Dr. McChesney Goodall, Memorial Research Center and Hospital, Knoxville, Tenn. Because the number of samples was so small, quantitative results will not be reported. One of the subjects showed a rise in both adrenaline and nor-adrenaline output, one a decrease in adrenaline and increase in nor-adrenaline and two showed a marked decrease in both adrenaline and nor-adrenaline. In one of the latter subjects, the nor-adrenaline dramatically fell from 73.44 μ gm. per 24 hours to 0.41 μ gm. per 24 hours in the 10 hours. Neither the increases nor decreases in adrenaline or nor-adrenaline were correlated with changes in pulse rate.

CONCLUSIONS

In evaluating the results of this series of experiments it should be noted that we did not obtain our desired level of minimal external sensory stimulation. We do believe, however, that we did obtain a significant degree of sensory deprivation and attenuation.

Although there are trends in reactions to sensory deprivation, it remains evident that the situation will be viewed differently by various subjects. Each subject will react to the situation in accordance with his past experience and personality structure.

While intellectual and emotional changes were present in our Air Force group, the degree of alterations were not as great as in some of the previously reported experimental groups. It may be that the defense mechanisms of our group did not permit as much loss of reality contact as other experimental subjects, most of whom were college students or other non-Air Force groups. An alternate explanation might be that we were introducing so much external stimulation in the nature of physical discomfort that

subjects focused on this and prevented the lapse into primary process thinking with true hallucinations. By using new facilities and techniques, our future research will determine if further lowering of sensory input causes a greater loss of contact with reality. There was a suggestion that those who remained in the deprivation environment for the 10 hours were able to relate the somatic discomforts with detachment and had confidence in themselves, in the monitors and in the equipment.

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DISCUSSION

JAY T. SHURLEY, M.D. (Oklahoma City, Okla.).—It is a pleasure to welcome Drs. Barnard, Wolff, and Graveline of the Wright-Patterson Aerospace Medical Laboratory to the small, but growing circle of intrepid souls who are performing, by means of the water immersion technique, these experimental interventions into the complex feedback loops normally existing between an individual and his environment. In terse aerospace language, they term this "under null-gravity conditions." Since my presentation of a fragment of my own findings here last year,¹ I have attempted to describe the complex nature of the experiments in operational terms, referring to the experimental variable in a short hand way as "the HHDE," which stands for "hydro hypodynamic environment," and categorizing the experimental frame of reference as that of bionomics, or experimental human ecology.

I, like the authors of this paper, have reluctantly resigned myself to the use of the misnomer, "sensory deprivation," in referring to the product of the experimentation, since popular usage has so widely seized upon the term. The labels applied matter much less

than the fact that another group of experimenters has demonstrated that curious, complex, and potentially disturbing effects upon mentation and physiology ensue in some profusion upon even relatively brief exposures of otherwise highly effective, healthy individuals to this situation.

The implication seems abundantly clear that here is a highly challenging set of facts, from both the practical and theoretical standpoints. They must be explored, tested, and thoroughly understood if man is to develop capability of personally penetrating ever deeper into alien environments without encountering preventable minor to major discouragements. For, I believe, disasters can occur if the implications of these experiments are ignored and necessary corrective measures not worked out to counteract insidiously developing decrements in performance.

At the same time, I feel that generally too much has been made of the hazards, and not enough attention paid to the reward side of the ledger in assessing the effects of these and similar experiments. The behavioral findings reported here are quite similar to those of my group, allowing, of course, for significant differences in details of technique, and in subjects used. The problem remains, how to account systematically for the phenomena observed ! We note, too, the attempts to record concomitant physiological data—a difficult technical problem. What is reported here in this regard is interesting, but insufficiently meaningful for me.

Among the many questions left unanswered by this sparse description of preliminary findings are these : Did the experimenters use themselves as subjects ? If so, was this fact known to the subjects ? What motivational factors were known to be operating with the subjects, and with the experimenters ? What was the nature of the explicit and implicit instructions to the subjects ? How do the authors account for the discrepancy between the number of subjects reporting sleep, and the number in whom EEG evidence is found ? As judged by EEG, what depth of sleep was attained ? Finally, were there any peculiarities in the volumes of urine excreted by the 4 subjects in which this could be accurately measured ?

For me, this was a fascinating, even tantalizing report. I congratulate the authors and look forward eagerly to hearing more from this group.

¹ Shurley, Jay T. : *Am. J. Psychiat.*, 117 : 539, Dec. 1960.

THE PSYCHIATRIC SERVICES OF TORONTO

A. B. S.

The initiation and development of psychiatric services in Toronto have a pattern similar to that of most North American metropolitan centres. Mental illness in the community created an immediate social problem which was managed by segregation into asylums: the separation was more or less humane but remained unenlightened until questing intelligence joined compassion in the discovery of useful knowledge. The conjunction, when time and opportunity allowed, revealed the great pioneers of psychiatric advancement.

The Ontario Hospital, Toronto. The Toronto Asylum was built in 1846 on the advice of a Committee of the College of Physicians and Surgeons of Upper Canada. The population of the city was then 19,706 and the committee was anticipating the founding of a university medical school. The committee was concerned to involve students in the rapidly advancing science of mental pathology: consequently a succession of Medical Superintendents of the asylum were appointed as Professors in Medical Psychology at the University of Toronto, until in 1906 the incumbent was named Professor of Psychiatry.

The old building is still sited at 999 Queen St. West. As the Ontario Hospital, Toronto, it was modernised in 1956, with the provision of an up-to-date reception and treatment unit, an open outpatient division, class and lecture rooms and research laboratories. In 1956 the hospital was recognised as a University teaching hospital; its proximity to the University, the other teaching hospitals and the research institutes allows a somewhat unique contribution to graduate education in psychiatry.

The Ontario Hospital, New Toronto is another Provincial mental hospital which has become surrounded by a rapidly expanding population. Originally it served the vast expanse of Northern Ontario, but now it is situated well within the 240 square miles of metropolitan Toronto and provides

for the western portion of a 1,600,000 community. To do so, the hospital has been reorganised into a number of separate clinical units and has added day care facilities and outpatient services.

The Provincial Mental Health Services are the responsibility of the Minister of Health of the Province of Ontario, with offices located in the Parliament Buildings, Toronto. The Ontario hospital service includes 16 mental hospitals, 3 hospital schools for the mentally retarded, and 25 outpatient clinics. However, very importantly the Ministry's responsibilities extend far beyond the direct administration of a Provincial hospital service. Psychiatric divisions of general hospitals, community clinics, graduate professional education, research facilities are all financed by grants-in-aid. In these ways the Mental Health Branch is closely identified with the expansion of psychiatric services, in collaboration with the communities, the voluntary associations, and the general hospital and university authorities. Many instances of such collaboration are to be seen in Toronto: a number are directly related to the initiative and vision of Dr. C. K. Clarke.

Dr. Clarke was a man of indomitable spirit and extraordinary energy. In 1905 he was appointed Medical Superintendent to the Ontario Hospital, Toronto, and a year later became Professor of Psychiatry in the University of Toronto. In the same year a 12-bed psychiatric unit for "functional and nervous disorders" was successfully operating at the Toronto General Hospital. In 1909 an outpatient clinic was established (Dr. Ernest Jones, director) for the purpose of working with mental cases "in the early stages of the disease." Reporting on the first year of work Dr. Clarke stated "it is interesting to note that none of the (155) patients so treated have reached the asylum, thus proving what has been contended that early treatment is not only advisable but important in many cases."

In 1912 Dr. C. K. Clarke was appointed Superintendent of the Toronto General

¹ Professor of Psychiatry, University of Toronto, Canada.

Hospital, and later to the influential post of Dean of Medicine. In this position he helped establish a "social service clinic" at the General Hospital to study the special problems of mental defectives in the community. In 1916 he founded a psychological laboratory in the University of Toronto to identify children with "premonitory signs of insanity." It was reported that of the first 569 children seen at the clinic, because they were believed to be mentally defective, about 8% were found to be suffering from dementia praecox or some other form of juvenile psychosis.

Since 1913 Dr. Clarke had been attempting to establish a Psychiatric Institute in Toronto similar to the Munich Clinic under Kraepelin and Alzheimer: he perceived this institute as a centre of teaching and research in Ontario, but his efforts were unrewarded until in 1925 the present Toronto Psychiatric Hospital was built at 2 Surrey Place. The University provided the site, the City constructed the building, and under a special act of the Legislature, the Province administered the services. Dr. C. B. Farrar was appointed medical director and succeeded Dr. Clarke as Professor and Head of the Department of Psychiatry, University of Toronto.

The Toronto Psychiatric Hospital now has four main divisions in addition to its 76-bed inpatient unit. The adult outpatient department is situated on Elizabeth St. and College. The main emphasis is on individual psychotherapy, group techniques and social therapy. On-going research interests include the validation of the Rorschach test and speech and communication disabilities. The Forensic Clinic is at 7 Queen's Park Crescent, adjacent to the main hospital: this clinic is concerned with the study and treatment of sex deviates. The Clinic for Children and Adolescents is at 34 Grosvenor St.—a Mental Retardation division has recently been established there. The research laboratories, especially emphasising psychophysiological enquiries, are located in the main hospital.

The hospital function has far outgrown its structure and a new Psychiatric Institute has been planned. A 240-bed hospital, teaching and research centre will be sited on the west campus of the University. For

service and university purposes the Institute will be linked, even more closely than the present hospital, with the Ontario hospitals, the psychiatric divisions of the teaching general hospitals, the research institutes, the voluntary agencies and the community clinics.

The Thistletown Hospital is an Ontario hospital which provides inpatient treatment facilities for very disturbed children, including autistic and schizophrenic children. Some 60 patients are treated in long term: an emphasis on milieu therapy is made possible by the utilisation of child care workers who are responsible for the daily management of the children. Features of the programme are the training of professional personnel in child care work, and the use of the school rooms as an integral part of the therapeutic planning.

The Department of Psychological Medicine in the Hospital for Sick Children offers consultation and treatment services mainly on an outpatient basis. The clinic is particularly concerned with psychosomatic problems, special disabilities, and acute manifestations of emotional disturbance.

The West End Crèche represents an interesting experiment in the day care of autistic children. These patients are introduced into a milieu of normal healthy youngsters if and when they seem ready for the move. The psychiatric team works co-operatively with the staff of the Crèche under the authority of a Board of Management.

Some municipal services are worthy of special note. The City of Toronto, Board of Health, *Division of Mental Hygiene* was organised in 1920. The service consists of psychological testing, diagnosis, consultation and counselling for persons with mental health problems, particularly children. *The Child Adjustment Services* (Toronto Board of Education—under the direction of Dr. C. G. Stogdill) provide intelligence testing, psychiatric assessment, and treatment of behaviour problems referred by the schools. *The Juvenile and Family Court Clinic* furnishes a diagnostic and treatment service for children referred by the court. *The York Township Child Guidance Clinic* under the direction of the local Department of Health, offers a service for emotionally

disturbed children and adolescents.

General hospitals provide an increasing number of beds for psychiatric illnesses. The hospital care is financed by the Ontario Hospital Services Commission, through pre-paid government insurance. A survey has shown that 40% of the patients admitted were suffering from the more serious forms of mental illness. On discharge 85% of patients returned to their homes: less than 10% of those discharged were transferred to mental hospitals.

The Toronto General Hospital, the Wellesley Hospital, the Toronto Western Hospital and St. Michael's Hospital are university teaching hospitals with psychiatric divisions. They are approved by the Royal College of Physicians and Surgeons of Canada as parts of a clinical network, organised by the University Department of Psychiatry, for graduate education in psychiatry. Senior staff appointments are controlled by the university and are linked to teaching and research responsibilities.

The psychiatric division of the *Sunnybrook Hospital*—a general hospital administered by the Department of Veterans Affairs—is similarly related to the University.

Voluntary agencies are influential in the Toronto psychiatric scene. *The Canadian Mental Health Association* has its headquarters in Toronto and has many pioneering ventures to its credit. Dr. Clarence Hincks, founder of the Canadian National Committee for Mental Hygiene (the precursor of the Canadian Mental Health Association) was a collaborator of Dr. C. K. Clarke and a friend of Clifford Beers. The present director, Dr. J. D. Griffin, has been largely responsible for the development of active Provincial branches of the Association, for the organisation of the White Cross volunteer movement, for the setting up of a unique Mental Health Research Fund, for the initiation of the Tyhurst Committee on Mental Health Services in Canada (soon to be published) and in Toronto for the *Toronto Mental Health Clinic*. This clinic is financially supported as an independent voluntary organisation by the United Appeal Fund: it collaborates primarily with social agencies for the provision of child guidance and adult psychiatric outpatient services. The clinic is also a mem-

ber service in the graduate training programme for psychiatrists and other professional workers.

The Ontario Association for Retarded Children and *The Ontario Association for Emotionally Disturbed Children* have their headquarters in Toronto. An important "Group for the Scientific Investigation of Mental Retardation" provides generous research support.

Alcoholism and Drug Addiction Research Foundation, an independent agency financed by the Province, furnishes both inpatient and outpatient services at the Brookside Hospital and Clinic, Toronto. In addition the Foundation has educational and research divisions, the latter supporting strong sociological and biological research programmes. The Foundation has organised clinical services for the alcoholic in all the major cities of Ontario.

The University of Toronto Health Service furnishes psychiatric consultations for its large student body. Treatment needs are met by the clinical facilities of the University Department of Psychiatry.

The private practice of psychiatry in Toronto is extensive; almost all psychiatrists engaged in private practice hold appointments in one of the general hospitals or community clinics; a considerable number have concurrent teaching or research responsibilities within the university.

This incomplete survey of psychiatric facilities in Toronto offers little more than a general impression of the pattern of services available. However two further comments are necessary to give a little better focus. First, the organisations described are almost all centrally located within easy reach of the Queen's Park Government and University centres; the problem of supplying psychiatric services to large suburban areas is urgent in both sociological and medical senses. Secondly, the legal processes governing the admission of mentally ill patients to hospital are exceedingly liberal: no formalities are required by general hospitals, a recommendation by one medical practitioner is sufficient authority to admit to the Toronto Psychiatric Hospital, two medical certificates (one in an emergency) will allow admission to an Ontario Hospital. Following the British example ef-

forts are continuously being made to simplify legal procedures. For example, at the Ontario Hospital, New Toronto, an "informal admission unit" has been established: patients admitted to this unit are no longer subject to the Mental Hospitals Act. Similar liberal arrangements hold for assignment after treatment to "residential units" as a preliminary to reestablishment in the community.

The American Psychiatric Association (then the Association of Medical Superintendents) held its first annual meeting — the 25th—in Toronto in 1871. Toronto was again the host city in 1881 and lastly in

1931. The records of these earlier meetings reveal an eager curiosity for psychiatry exercised at a leisurely reflective pace. Growth and press for action are more representative of the modern scene; opportunities to savour local colour and flavour have regretfully (even if necessarily) been sacrificed for speed and efficiency. However those who are still unashamedly old fashioned enough to have the time and inclination to enjoy their privileges as guests are cordially invited to visit the hospitals and clinics in Toronto. The doors are open and visitors will be eagerly welcomed by enthusiastic colleagues.

ABSTRACTS

THE CARE OF PSYCHIATRIC PATIENTS IN A GENERAL HOSPITAL WITHOUT SPECIAL FACILITIES¹

PAUL W. DALE, M.D., AND HAROLD S. WRIGHT, M.D.²

In the 4-year period—1954 to 1958—the number of community general hospitals in the United States accepting psychiatric patients increased by 40%. By 1958 the number of psychiatric admissions to general hospitals was larger than the number of admissions to public mental hospitals. This paper reports the experience at a small community general hospital of admitting and caring for psychiatric cases, using the already established facilities without the development of a separate psychiatric unit.

There are throughout the United States psychiatrists who function adequately without a hospital appointment and general hospitals that do not have psychiatrists on their attending staff. These hospitals go about their business without any apparent suffering from the fact that their staff does not include a psychiatrist. Psychiatrists also have not always found a need for general hospitals. Of the many patients who need psychiatric attention, some will best be served by general hospital care. The purpose of psychiatric care in community general hospitals is to provide better for patients who suffer serious and troubling illnesses.

A psychiatrist must alleviate the fear that some members of hospital staffs have of admitting psychiatric cases to *their* hospital. This fear expresses itself in many ways—joking is part of it—but more troublesome is the tendency to want to segregate these patients in some remodeled wing of the hospital or similar removed sections. The staff may want to impose limitations and restrictions—restrictions based on their fear rather than any understanding of the medical and psychiatric problems involved. A way to

remove this fear is to encourage the rest of the medical staff to actively participate in the examination and treatment of the psychiatric cases that come to the hospital.

It is not always clear to members of the medical and surgical staff of a general hospital exactly how a psychiatrist must operate. While another physician might be able to let his patients with a sore throat or stomach ache wait a few minutes while he takes care of the more urgent call, in psychiatry this can be difficult. If a psychiatrist finds himself fully scheduled throughout the day, it is not easy to drop what he is doing and attend to problems in the hospital. The scheduled patients have first call on his time. The attendance of hospital meetings, conferences, rounds, and so forth, must be scheduled just as a patient's interview is scheduled and time must be apportioned between these two demands. By the nature of the serious problems that patients present, the demands of the patients can be a very moving thing that causes a psychiatrist to focus his working energy in their care. It is not usually possible to crowd in an extra patient or an extra hospital staff meeting.

Hospitals, and the medical and surgical staffs of hospitals, must recognize that because of the kinds of psychological interactions that occur between psychiatrists and their patients, psychiatrists sometimes function differently from other physicians. Furthermore, the psychiatrist is frequently hard-put to find ways to ease the patient's discomfort and to correct what is wrong. Psychiatric treatment is frequently laborious, the patients can be difficult to deal with, and the psychiatrist may not have any branch of science to fall back upon to find successful treatment for his cases.

THE ECONOMICS OF PSYCHIATRIC ILLNESS

Third party payment plans are very much a part of the medical world of the day, and

¹ Abstract of paper read at the 117th annual meeting of The American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

² From the Psychiatric Dept., The Greenwich Hospital Association, Greenwich, Conn.

seem to be rapidly on the increase. In the course of this project, the relationship of third party payments to the problems of the care of psychiatric illness in general hospitals was studied. The influence of this social phenomenon becomes an important part of the practice of psychiatry in a general hospital situation.

The psychiatrist who attempts to work in a general hospital must be in a position to advise his patients and their families what costs might be expected, and how they may be covered, so that sensible planning within their financial means can be accomplished. It is easy to see that the economics of hospital care sometimes excludes patients from admission to a general hospital who might otherwise be admitted.

AT THE GREENWICH HOSPITAL

The psychiatric department, medical staff, and administrator of the Greenwich Hospital recognized that psychiatric patients deserve and need the facilities of a general hospital. Furthermore, they believed, and found true, that introducing active psychiatric treatment in the hospital would improve the recognition and therapeutic handling of psychological factors in the illnesses of other patients in the hospital and in the community.

Patients with mental illness were admitted to *all* floors of the hospital. Their accommodations were in part governed by the patient's selection of a 4-bed, 2-bed or single room—often for economic reasons, sometimes for personal reasons. Patients seen in the clinic and other patients without a private psychiatrist or private physician were admitted to service psychiatry where their daily care and treatment were undertaken by the intern and resident on medicine. All patients were admitted on a voluntary basis just as those with surgical and medical disorders.

The selection of patients for admission was based not on diagnosis but rather on the availability of facilities here for the effective treatment of the disease which the patient suffers, and his ability to reside with reasonable comfort in a general hospital and cooperate with the therapeutic efforts in his behalf. In addition to those admitted by the members of the psychiatric staff, there is a

group of patients with primary psychiatric disorders who are admitted by their family physicians and are seen in consultation by the psychiatric staff. As a rule, this consultation is not confined to a single visit, but the patients are seen regularly throughout the course of their hospital stay combining the therapeutic efforts of both family physician and the psychiatrist. Psychiatric efforts are equal to those for patients admitted as psychiatric cases. This group of patients in our experience is the larger of the two. It was our aim, usually successfully accomplished, to avoid having the patient transferred to psychiatric care and thereby disposed of to other hands. We retained the family physician's active participation in the case.

Patients admitted to the Greenwich Hospital had at least sufficient insight to recognize the nature and seriousness of their illness to cooperate with the physician and nursing staff.

Uncooperative, delirious patients were admitted for medical treatment of the disorder producing the delirium. Some catatonic patients were admitted for further observation and immediate therapy, either drugs or EST. Many of these patients have been successfully handled until the catatonic symptoms have resolved. Family members have signed authorization for their treatments.

All the diagnostic categories of mental disease have been admitted. These include acute organic mental disorders, which are usually toxic disorders, requiring medical treatment; chronic brain disorders, admitted largely for further diagnostic study; the functional psychiatric disorders including schizophrenia, manic-depressive psychosis, involutional psychosis, and depressive psychosis; the neurotic conditions including conversion reactions, phobic states, psychophysiologic reactions, and occasionally some personality trait disturbance, particularly emotional instabilities and immaturities.

In addition to the support of hospital administration, the success of the program can be attributed to the good efforts and considerable willingness of the nursing staff. Without exception every nurse and student nurse on every floor has shown an interest in the work, a willingness to learn new tech-

niques, and enthusiasm to undertake not only the nursing of the body but psychological nursing as well. The patients, for the most part, have been cared for by the floor duty nurses and only in rare instances of seriously ill patients has it been necessary to supplement this with private duty nursing. In spite of the fact that one of the largest groups of admissions is the depressed patient, there have been no suicides.

PROBLEMS

Even a small increase in psychiatric patients can sometimes strain the facilities of the hospital. It often happens, especially during the winter months, that the hospital is operating at capacity or over capacity, and consequently it may be difficult for a psychiatric case even of urgent nature to gain admission because there is no bed space available. Where general hospitals are already operating at near capacity, the addition of psychiatric patients without additional facilities can create a problem.

One of the more serious limitations is that there can be no suitable room anywhere in the patients' areas to conduct an hour of psychotherapy. Such facilities are most urgently needed on general hospital floors having multiple patient accommodations. It seems as if the designers of hospitals do not expect patients to have private conversations with their doctors.

A third problem is that psychiatric patients usually have well bodies and the bed is a secondary consideration to be used only at night for sleep. The problem of what the patient should do in the daytime can be met, in part, by showing the nurses' aides and volunteers how they can assist. Psychiatric cases frequently have impaired ego strengths and, consequently, are not

able to solve problems of diversion, recreation, or relationship to other patients and nurses in the hospital by themselves because of the very nature of their illnesses.

SUMMARY

Experience over a 3-year period demonstrates that a general hospital can admit, and successfully treat, a wide variety of psychiatric disorders using the facilities that ordinarily exist in such a general hospital designed and built for the care of patients with physical diseases.

The advantages of this program are that it permits the patient to be treated in the community where he resides. There may be more ready acceptance of hospitalization by the patient and his family. Usually his health insurance plan provides some coverage for such care. It permits patients to have simultaneous psychiatric, medical and surgical study, and almost always in our experience, several physicians were involved in the treatment of each patient. Lastly, it is of educational value to members of the staff—interns, residents, nurses and student nurses.

This method of care of psychiatric patients in a community general hospital is commended to others who are considering similar programs. We suspect that wherever the three ingredients of a good psychiatric staff, a progressive administration, and a willing nursing department co-exist, such a program will be successful. Psychiatric services in general hospitals will improve medical care throughout the hospital, will strengthen the medical staff, will advance teaching, and, most of all, will provide a needed service for a group of distressingly ill psychiatric patients. These problems and these patients occur in all communities throughout the land.

CLINICAL NOTES

(The Clinical Notes report the findings of the authors and do not necessarily represent the opinions of the Journal.)

TRANLYCYPROMINE¹ IN THE TREATMENT OF CHRONIC SCHIZOPHRENICS

JOSEPH A. BARS, M.D., AND JOHN C. SAUNDERS, M.D.²

The chronic schizophrenic, who is seclusive, withdrawn, anergic, apathetic, delusional and hallucinated, has long posed a challenge to psychiatry. In recent years tranquilizing drugs, especially phenothiazine derivatives with the piperazine group, have had some success with this kind of patient. More recently monoamine oxidase inhibitors have been combined with tranquilizers to obtain better results. Many patients who had not responded previously to tranquilizers, did show improvement under this combination therapy. But this drug regimen was not without danger, for in a significant number of patients there seemed to be an exacerbation of the psychosis, the patient becoming disturbed, irritable, aggressive and responding more actively to delusions and hallucinations. This exacerbation was often difficult to control and frequently lasted long after the monoamine oxidase inhibitor was discontinued.

The purpose of the present study was to test the effectiveness of the monoamine oxidase inhibitor, tranlycypromine (Par-nate), when used in combination with tranquilizers, to treat chronic schizophrenics. Seventy female schizophrenic patients were chosen. Their ages ranged between 19 and 63, and they had been continuously hospitalized for 2 to 28 years. They were untidy, idle, seclusive, withdrawn, anergic, apathetic, delusional and hallucinated. All had been treated with various tranquilizing drugs for at least 2 years with slight or no improvement. Twenty-one patients had received levomepromazine, 12 chlorpromazine, 3 trifluoperazine, 2 thioridazine, 2 fluphenazine, 1 promazine, 17 a combination of chlorpromazine and trifluoperazine,

10 levomepromazine and trifluoperazine, 1 thioridazine and trifluoperazine, and 1 chlorpromazine and reserpine.

During the study the patients continued to receive the same tranquilizing drugs, and tranlycypromine was added, starting with 5 mg. b.i.d., and gradually increasing the dose until either satisfactory therapeutic results were obtained or untoward side-effects appeared. The highest dose reached was 30 mg. b.i.d. The patients received tranlycypromine for 4 to 8 months, with the exception of 9 patients in whom the drug had to be discontinued earlier because of the appearance of acutely disturbed behavior. In 2 patients the drug was stopped after 2 weeks, in 1 patient after 3 weeks, in 3 patients after 2 months, and in 3 patients after 3 months.

At the close of the study the patients were evaluated as follows: 7 patients were markedly improved, i.e., in remission, free of delusions and hallucinations, and either released or ready for release from the hospital; 10 patients were moderately improved; 8 slightly improved; 25 unchanged, and 20 were worse, i.e., more disturbed, irritable, aggressive, and responding more actively to delusions and hallucinations. This worsening remained despite reduction in dose of tranlycypromine to 10 mg. daily, but it disappeared 5-10 days after discontinuation of the drug.

The most frequent side-effect encountered was a spell of dizziness and weakness associated with a marked fall in blood pressure. Twenty-one patients experienced one or more of these attacks, which occurred most frequently in the first month of therapy. Three patients had a momentary loss of consciousness together with a precipitous fall in blood pressure. It was usually possible to prevent further hypotensive crises

¹ Tranlycypromine was supplied by Smith Kline & French Laboratories, Philadelphia, Pa.

² Rockland State Hospital, Orangeburg, N. Y.

by lowering the dose of tranylcypromine. There was no other serious side-effect except for the above mentioned appearance of disturbed behavior in 20 patients.

In summary, it has been shown that tranylcypromine, when used in combination with a tranquilizer of the phenothiazine derivative group, is effective in the treatment of chronic schizophrenics who are withdrawn, apathetic and regressed. In common with other MAO inhibitors, tranylcypromine may produce an acute exacer-

bation of the psychosis in some patients. However, whereas the disturbed symptoms caused by other MAO inhibitors often last many weeks after the drug has been discontinued, these symptoms disappeared 5-10 days after tranylcypromine was stopped. Tranylcypromine also has quicker action than other MAO inhibitors. The troublesome side-effect of severe hypotension can be lessened by starting with a low dose of tranylcypromine and increasing it very gradually.

THE RELATIVE MERITS OF TRANYLCYPROMINE ALONE AND TRANYLCYPROMINE IN COMBINATION WITH TRIFLUOPERAZINE IN THE TREATMENT OF PATIENTS WITH SEVERE AGITATED DEPRESSIONS¹

STANLEY LESSE, M.D.²

This paper presents the summary of my findings noted in a comparative evaluation of the therapeutic effects of tranylcypromine (Parnate, S.K.F.) used alone and tranylcypromine used in combination with trifluoperazine (Stelazine, S.K.F.) in the ambulatory treatment of 50 patients with severe agitated depressions. The literature dealing with tranylcypromine and tranylcypromine-trifluoperazine combined in the management of depression is confusing and somewhat contradictory. I previously reported that "tranylcypromine alone" was of no significant benefit in patients with severe agitated depressions(1), and that the tranylcypromine-trifluoperazine combination appeared to be the psychopharmacologic treatment of choice at this time in the management of patients with severe agitated depressions(2, 3). Trifluoperazine alone was of no significant benefit in the management of depressed patients(2). The literature is very difficult to compare. Some authors imply that tranylcypromine is indicated in all types of depression, even in withdrawn schizophrenics(4). Others have written that the combination of drugs is

indicated in a broad range of psychiatric illnesses, many with decreased psychomotor activity(5, 6, 7). A few investigators have found the drug combination to be effective in anxious depressed patients(8-12).

The patients included in this study were carefully screened prior to treatment. All were very anxious, agitated and depressed. The symptoms, signs, personality matrices and family backgrounds commonly associated with the diagnostic category "involutional depression" were seen. All were unable to perform vocationally or socially and were completely dependent upon their families. Many had intermittent suicidal preoccupations. They were too ill to be treated on an ambulatory basis with psychotherapy alone.

METHOD

The odd numbered patients were treated with tranylcypromine alone, while the even numbered patients received the tranylcypromine-trifluoperazine combination. The duration of treatment ranged from 2 weeks to 6 months. Of the 25 patients receiving tranylcypromine alone, 16 were women aged 34 to 66; 9 were men aged 41 to 69. Fourteen of the patients receiving the drug combination were women aged 42 to 71 while 11 were men, 37 to 68 years of age. Six patients, 3 in each group, had clearly

¹ The drugs were supplied by Smith Kline & French Laboratories, Philadelphia, Pa.

² Neurological Institute of the Presbyterian Hospital of New York and the Dept. of Neurology, Columbia University.

defined schizoid personality matrices. The patients, as a whole, had been severely ill for from 6 weeks to 11 years, the average period being 4 months.

The dosages were standardized. Patients receiving tranylcypromine alone were given 10 mgm. of the drug t.i.d. The other group of patients all received 10 mgm. of tranylcypromine plus 2 mgm. of trifluoperazine t.i.d. The technique used in evaluating the degree of improvement stressed the patient's adaptation to routine vocational and social responsibilities to everyday life in addition to the degree of symptomatic improvement as described previously in detail by the author (1, 3).

Seven of the 25 patients receiving the tranylcypromine-trifluoperazine combination obtained an Improvement Rating of I (excellent) and 9 achieved an Improvement Rating of II (good). Therefore, 16 (64%) of the 25 patients treated by the drug combination were able to perform on a high level vocationally and socially within 3 to 4 weeks after therapy. The remaining 9 patients obtained no significant benefit from this therapy.

This is in marked contrast to the results noted when tranylcypromine alone was administered. Here only 2 patients were considered as obtaining an Improvement Rating of I, while 4 were recorded as Improvement Rating II. Thus only 6, or 24% of the patients, manifested significant benefits from the tranylcypromine alone. Eleven of the 19 patients who had poor results with tranylcypromine used alone for a minimum period of two weeks were placed on combined tranylcypromine-trifluoperazine therapy. Five of the 11 demonstrated Improvement Ratings I or II.

While this sample of carefully screened patients with severe agitated depressions is small, and while the non-specific effects of the placebo action of the drugs and the chance of spontaneous remission undoubtedly had an influence on the degree of beneficial results noted, when the drug combination was used, these limiting factors prevailed with equal force among the patients treated with tranylcypromine alone.

CONCLUSIONS

Tranylcypromine in combination with trifluoperazine is of very significant benefit in severely agitated, depressed patients. Tranylcypromine alone is of little significant worth in this type of patient.

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COMBINED PSYCHOPHARMACEUTICAL TREATMENT IN 460 NEUROPSYCHIATRIC PATIENTS

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During our trials of reserpine in 1953, meprobamate in 1954, chlorpromazine in 1955, trifluoperazine, mepazine, promazine,

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prochlorperazine, trifluoperazine, thiopropazate, perphenazine, thioridazine, and more recently methaminodiazepoxide, imipramine, isocarboxazid, iproniazid, pheniprazine, nialamide, deanol, and methylphenidate, we

TABLE 1
Single Psychopharmaceutical Medication

DRUG	NO. OF CASES	GREATLY IMPROVED	CONSIDERABLY IMPROVED	SLIGHTLY IMPROVED	NO CHANGE	SIDE REACTIONS
Reserpine	350	23%	35%	22%	20%	19%
Chlorpromazine	350	52%	11%	0%	37%	15%
Meprobamate	300	3%	34%	46%	16%	1%
Perphenazine	323	33%	21%	27%	19%	15%
Methylphenidate	200	20%	38%	0%	15%	27%
Prochlorperazine	180	9%	20%	36%	33%	17%
Triflupromazine	132	18%	29%	30%	23%	9%
Benactyzine	60	2%	24%	35%	38%	5%

used only one phrenotropic agent at a time because the testing of individual medications required this to determine their individual efficacy. This work forms a background for the present study of combined phrenotropic medication. In 1957, the multiplied benefits of plural medication became evident, and the present study confirms this finding.

During this 2-year study of 460 neuropsychiatric patients in 7 diagnostic groups and 15 subgroups, meprobamate was used 454 times, chlorpromazine 391 times, nialamide 260, thioridazine 94, chlordiazepoxide 71, perphenazine 65, imipramine 36, reserpine 18, methaphenidate 15, trifluoperazine 8, fluphenazine 6, and catron 6.

The following charts give the results of the study.

There were 24 hebephrenic, 54 paranoid, 64 catatonic patients in the schizophrenic reaction group; 21 manic, 27 depressive in the manic-depressive group; 15 conversion reaction, 105 anxiety reaction, 48 depressive reaction in the psychoneurotic group. There were 19 addiction, 17 antisocial reaction, and 1 sexual deviation in the sociopathic personality disturbance group. In intoxication, alcohol there were 33, drugs 12 in the acute brain syndrome group; intoxication, alcohol 3, cerebral arteriosclerosis 5 in the chronic brain syndrome group; 12 in the involutional psychotic reaction.

TABLE 2
Combined Psychopharmaceutical Medication

DRUG	NO. OF CASES	GREATLY IMPROVED	CONSIDERABLY IMPROVED	SLIGHTLY IMPROVED	NO CHANGE	SIDE REACTIONS
Meprobamate) Benactyzine)	185	12%	30%	39%	19%	7.2%
Meprobamate) Chlorpromazine)	108	58%	42%	0%	0%	2%
Meprobamate) Chlorpromazine) Nialamide)	126	61%	39%	0%	0%	5%
Meprobamate) Mellaril)	20	38%	47%	15%	0%	1%
Meprobamate) Thorazine) Tofranil.)	10	59%	35%	6%	0%	8%
50 different combinations of 14 psychotropic medicaments	96	51%	49%	0%	0%	9%

CONCLUSIONS

The combination of meprobamate, chlorpromazine, and nialamide appeared to effect the best results. Sixty-one percent of the group on these medicaments were greatly improved. Meprobamate, chlorpromazine, and tofrânil produced the next greatest improvement in 59%; meprobamate and chlorpromazine in 58%.

Side effects showed a decreased percentage in multiple medication. This can be partially accounted for by the fact that in the single medication group larger doses were required. The ameliorating effect of meprobamate on side reactions was also considered to be a factor in reducing the side effects by decreasing anxiety, bettering sleep and thereby reducing the amount of phenothiazines necessary for improvement.

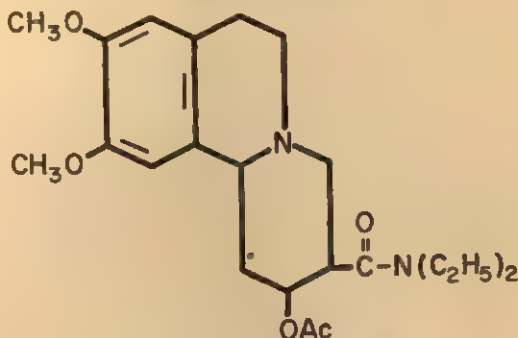
A PILOT STUDY OF P-2647,¹ A NEW BENZOQUINOLIZINE DERIVATIVE EMPLOYED AS A PSYCHOTHERAPEUTIC AGENT IN 44 CASES OF OVERT ANXIETY

MARSHALL E. SMITH, M.D.²

This pilot study is designed to determine whether P-2647 possesses psychotherapeutic activity; to broadly define the nature of such activity should it exist; and to determine whether P-2647 is relatively free of unwanted side effects and toxicity within the dosage range employed.

tioned avoidance behaviour (in animals) *without* influencing the release of central amines. Although P-2647 proved twice as potent as chlorpromazine and tetrabenazine in suppressing conditioned avoidance in monkeys, at no time did it influence the release of brain norepinephrine and serotonin.³

Structural Formula



P-2647, a new benzoquinolizine

Pharmacology. Although structurally related to reserpine, tetrabenazine and—to a lesser degree—chlorpromazine, P-2647 demonstrates psychotherapeutic activity that is pharmacologically unique. Unlike any active psychotherapeutic agent known today, this compound markedly suppresses condi-

In pharmacologic studies, P-2647 exerts more potent anti-emetic activity than chlorpromazine against apomorphine-induced emesis in dogs, is the least sedating benzoquinolizine known, as determined by spontaneous motor activity tests in mice, and demonstrates rapid onset and limited duration of action—a half-life of approximately 30 minutes in the blood of rabbits after intravenous administration. Although tremors and salivation were noted in animals receiving extremely high doses, no side effects were observed with P-2647 at doses far above the proposed therapeutic level of 0.5 to 2.0 mg./kg.³

On the basis of pronounced CNS activity, comparative lack of sedation, and relative freedom from side effects and toxicity at proposed therapeutic dose levels, P-2647 was recommended for clinical trial.

Methodology. P-2647 was administered orally to 44 patients, 19 to 63 years old, manifesting various degrees of anxiety.

P-2647 was first administered in doses of

¹ Supplied by Charles Pfizer and Co., Inc., New York, N.Y.

² 124 Whitfield St., Guilford, Conn.

³ Data obtained from Charles Pfizer and Co., Inc., New York, N. Y.

25 to 55 mg. daily to a preliminary group of 5 patients (female). Subsequently, an additional 39 patients (18 males, 21 females) received P-2647 in 30 mg. daily doses which were increased at the rate of 10 mg. every 3 days until a response was reported.

Complete blood counts, urinalyses, and alkaline phosphatase and serum glutaminic-oxaloacetic transaminase determinations were done 3 times a week.

Results and Observations. In the preliminary group of 5 patients, 2 reported significant reduction in anxiety; 3 reported mild-to-marked "drowsiness."

In the group of 39 patients receiving P-2647, 37 (or 95%) noted a "definite" reduction in anxiety at dose levels of 55 to

250 mg. daily (see Table 1). In general, the more "fixed" or deeply rooted anxiety states appeared to require higher dosage levels while the more transitory or "temporary" states responded beneficially to the lower dosage levels. Significant anxiety reduction was consistently noted in patients receiving over 50 mg. of P-2647 daily. The maximum dose required to effect response was 250 mg. daily.

In accordance with pharmacologic findings, P-2647 demonstrates a relatively rapid onset of action and a limited duration of activity. Therapeutic effects were usually observed within 24 to 72 hours, and cessation of medication invariably resulted in resumption of symptoms within 24 hours. Furthermore, there was a notable absence of side effects other than mild sedation or drowsiness. Throughout the study, repeated laboratory checks failed to reveal deviations in hepatic, hematologic or other determinations, in any patient.

SUMMARY

P-2647, a new benzoquinolizine derivative, is structurally related to reserpine and tetrabenazine. It appears to possess unique ability to suppress conditioned avoidance behaviour without releasing central amines.

In this pilot study, P-2647 was administered to 44 anxious patients. Of these, 39 reported definite and significant reduction in anxiety. With the exception of mild sedation, no side effects were reported.

The results suggest that this new benzoquinolizine possesses a degree of psychotherapeutic activity and safety that makes it worthy of further investigation.

TABLE 1

Dosage Levels * at Which Response to P-2647 was Reported in 39 Cases of Anxiety

DAILY DOSAGE (MG.)	NO. OF PTS. REPORTING RESPONSE	TOTAL NO. AND % OF PTS. RESPONDING AT OR BELOW STATED DOSAGE
250	3	39 (100%)
200	7	36 (92%)
100	11	29 (74%)
70	9	18 (46%)
55	7	9 (23%)
30	2**	2 (5%)

* Initial dose level of 30 mg. of P-2647 daily, was increased by 10 mg. every 3 days until response was reported. Maximum duration of therapy was 7 weeks.

** This response was described as "mild drowsiness"; the response reported by the remaining 37 patients was described to be a "definite" reduction in anxiety.

TREATMENT OF PSYCHIATRIC PATIENTS WITH A PHENOTHIAZINE DERIVATIVE (PROCHLORPERAZINE) WITH SPECIAL REFERENCE TO AFTER CARE¹

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This report deals with the effects of an antipsychotic drug, prochlorperazine, as

¹ We are indebted to James Prescott for the statistical evaluation of the data.

² Verdun Protestant Hospital, 6875 Lasalle Blvd., Verdun, P. Q.

used in mental hospital treatment and in the after care situation. The main reason for selecting prochlorperazine for this study was that this drug had been administered to a relatively large number of former inpatients at the Verdun Protestant Hospital,

who were seen in the after care clinic following discharge.

Of 152 patients surveyed, 56 were male, 96 female. The ages varied from 18 to 74 years, the average being 34 years. These patients had improved sufficiently to be discharged during the 2-year period, January 1, 1958 to December 31, 1959, and had been treated with prochlorperazine for 15 days or longer during their stay at the hospital.

In 45 of the 152 patients treated in hospital, prochlorperazine was discontinued and other medication substituted, *i.e.*, other phenothiazine derivatives or non-phenothiazine drugs or both: 41 had not responded sufficiently well, 4 had had side effects. On

depressed patients appeared to benefit and none of the manic patients, but the number is too small to be considered significant.

If one classifies schizophrenia and paranoid states together, and considers the other diagnoses as a group, these figures can be retabulated (Table 2).

These figures were subjected to statistical analysis (chi square method). The difference between the groups was found to be significant at the $p < .01$ level.

In 12 of the after care patients prochlorperazine was discontinued, in 25 the dose was decreased and in 11 increased. Of the 12 patients 4 had to be readmitted, the mental condition of 4 others became consid-

TABLE 1

	TOTAL	IMPROVED	UNCHANGED	AGGRAVATED
Schizophrenia	55	32 (58.1%)	14 (25.4%)	9 (16.5%)
Paranoid reaction	14	12 (85.7%)	1 (7.14%)	1 (7.14%)
Depression	10	3 (30%)	5 (50%)	2 (20%)
Manic reaction	4	0	0	4
Pathological personality & neurotic reaction	5	2	2	1
Miscellaneous	5	1	2	2

TABLE 2

	TOTAL	IMPROVED	NOT IMPROVED
Schizophrenics & Paranoids	69	44 (63%)	25 (37%)
Others	24	6 (25%)	18 (75%)

the other hand, in twice the number of patients (91), medication was changed from other drugs to prochlorperazine, 45 from other phenothiazine derivatives, 8 from nonphenothiazines, and 38 from both.

Eighty (53%) patients showed side effects: 70 had extrapyramidal symptoms, (akathisia 49, dyskinesia 6, Parkinsonism 15); 3 developed a skin rash and 7 had miscellaneous reactions. Of the 80 patients with extrapyramidal symptoms 76 (95%) were controlled by antiparkinsonian drugs.

Of the 152 patients in this series, 93 were followed in the after care clinic. Their response to prochlorperazine according to their diagnostic categories is presented in Table 1.

The results indicate that prochlorperazine in our material was most effective in paranoid and in schizophrenic reactions. A few

erably worse and only 3 remained continually well; we lost contact with 1. Similarly, of the 25 patients whose dose was decreased, because they seemed to have been making satisfactory progress, the condition of 12 subsequently became worse and only 13 maintained their improvement. On the other hand, of the 11 patients whose physicians decided to increase the maintenance dose, 8 responded favourably and only 3 did not improve.

SUMMARY

1. Prochlorperazine has proved to be an effective drug for the treatment of acute psychotic conditions and for maintenance therapy in an after care setting of chronic psychiatric patients. It is particularly valuable in paranoid states and schizophrenia. Frequent side effects (53%) especially of the extrapyramidal type were generally

controlled without difficulty by the addition of anti-parkinsonian drugs.

2. Frequently, discontinuation or decrease of the dose of prochlorperazine resulted in exacerbation of symptoms, which in most cases responded promptly to resumption of maintenance therapy or to increase of dosage.

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CASE REPORTS

BARBITURATE INTOXICATION IN A PATIENT TREATED WITH A MAO INHIBITOR

EDWARD F. DOMINO, M.D., THOMAS S. SULLIVAN, M.D.,
AND ELLIOT D. LUBY, M.D.¹

Combinations of drugs in psychiatry represent an increasing hazard to the patient. Luby and Domino(5) reported toxic synergism of a potentially lethal nature when imipramine and a monoamine oxidase inhibitor were combined. It is common in the treatment of severe depression to use barbiturates for sleep in patients already receiving antidepressant agents. Clinical experience suggests that considerable caution should be exercised when barbiturates are used with MAO inhibitors.

It is well known that MAO inhibitors are almost devoid of sedative effects and yet these agents prolong the hypnotic activity of barbiturates. Pharmacological evidence in animals suggests that this effect is not necessarily related to inhibition of monoamine oxidase(1, 2, 3, 4).

Recently a relatively new MAO inhibitor, tranylcypromine (Parnate), which is structurally quite different from previous hydrazine MAO inhibitors, has been used clinically. To date there appears to be little information available as to whether tranylcypromine has any significant interaction with the barbiturates. The present paper describes a case of serious toxicity to amobarbital sodium in a patient taking tranylcypromine. Preliminary toxicity data in rats support the clinical observation in this case of a synergistic toxic effect of combined administration of these two drugs.

A 20-year-old student nurse was admitted following a suicidal attempt precipitated by a bitter argument with her mother and poor academic performance in school. She was psychotically depressed but intermittently externalized her aggression in vehement outbursts directed toward staff. The patient was

hospitalized on April 25, 1961, and placed on 10 mg. of tranylcypromine t.i.d., given orally, beginning May 2, 1961. On May 24, she became quite agitated, necessitating seclusion. She was inadvertently given amobarbital sodium, 250 mg., intramuscularly for sedation and within one hour became ataxic and fell to the floor, repeatedly hitting her head and digging into her skin with her fingernails. The patient then began to complain of nausea, headache, and dizziness. About 3 hours after the barbiturate injection, she was vomiting and semicomatose. Her pupils were widely dilated and her blood pressure was 82/64 mm. Hg. She was immediately transferred to the neurosurgical service at the Detroit Receiving Hospital to rule out the possibility of complicating cerebral trauma.

On admission to Detroit Receiving Hospital the patient was unresponsive to pin prick. She had multiple ecchymotic contusions of her forehead. Emergency cervical spine and skull x-rays were negative. A lumbar puncture was also negative. CBC and blood urea studies were likewise normal. Urinalysis revealed 4 plus occult blood. The possibility of a brain concussion with acute drug intoxication was entertained. The patient remained semicomatose for 36 hours. She was disoriented with recent memory loss for 3 days. She gradually responded well to supportive treatment only and was transferred back to the Lafayette Clinic after 72 hours. She complained of residual headache with dizzy spells aggravated by postural unsteadiness for 2 weeks following the incident. During this time she complained that it was painful for her to concentrate. Her previous depressive affect was improved and she has remained free of suicidal preoccupation for several months following the episode of acute intoxication.

EXPERIMENTS IN ANIMALS

The circumstances of this case made it difficult to assess the relative contributions of head trauma and combined amobarbital-tranylcypromine toxicity to the final semi-

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comatose clinical state. In order to confirm the impression that the combination of tranlycypromine and amobarbital produced enhanced toxicity, a study using two groups of albino rats was initiated. Adult albino rats were divided randomly into two groups of 12 to 15 animals. Group A received 5 mg./kg. of tranlycypromine subcutaneously each day for 3 days. Group B received an equal volume of 0.9% saline. On the 3rd day of treatment, one hour after the last subcutaneous injection, amobarbital sodium was given to both groups of animals in a dose of 45 mg./kg. intraperitoneally. For purposes of objectivity, the sleeping time was taken as the time during which the righting reflex was lost. It was found that Group A rats treated with tranlycypromine and amobarbital had a mean sleeping time of 78.7 minutes (S.D. ± 10.4 min.). In contrast, Group B animals which received saline followed by amobarbital had a mean sleeping time of 31.9 minutes (S.D. ± 4.0 min.). Three of the 15 rats given tranlycypromine plus amobarbital died. In contrast, all 12 rats given saline plus amobarbital survived. The increase in mean sleeping time was over twofold. Statistical analysis of the data using the "t" test showed that the means were significantly different ($p < .001$).

COMMENT

This case report is complicated by the fact that the patient fell to the floor and may have sustained a brain concussion. The onset of symptoms occurred one hour after amobarbital injection. However, the onset of coma was somewhat delayed, inasmuch as several hours passed after the injection of amobarbital. Furthermore, the semi-comatose state lasted for approximately 36 hours following amobarbital injection. These findings would suggest that the metabolism of amobarbital was seriously interfered with because of the previous tranlycypromine medication, or that there was brain damage due to cerebral concussion. The animal data clearly show that premedication with tranlycypromine prolongs, at least two and one-half fold, the duration of amobarbital hypnosis. LaRoche and Brodie(4) have pointed out that MAO inhibitors in general are prolonging agents

in contrast to true potentiating drugs. Although no specific data are available on the mechanism of action of tranlycypromine, it appears probable, even though this compound is quite different in chemical structure from other MAO inhibitors, that it is acting in a similar manner to prolong the action of amobarbital. It is well known that this prolonging action is not related to inhibition of monoamine oxidase. For example, Allmark, *et al.*(1), have shown that the tuberculostatic agent, isoniazid, which is relatively devoid of MAO inhibitory effects, also prolongs barbiturate sleeping time in rats. Goldin, *et al.*(3), have pointed out that, when administered to mice previous to or simultaneously with pentobarbital, both isoniazid and iproniazid prolong anesthesia, although they do not appear to be completely similar in their effects. Iproniazid caused a significant reduction in the dose of pentobarbital required to produce anesthesia. Isoniazid, in equal doses, had no significant effect. Also, following recovery from pentobarbital anesthesia, iproniazid reinduced anesthesia but isoniazid did not. Fouts and Brodie(2) have shown that iproniazid prolongs the hypnotic effect of hexobarbital by interference with the rate of metabolic transformation. Iproniazid inhibits the enzyme systems in liver microsomes which oxidize the side chain of hexobarbital. These investigators suggest that an action similar to that of other known potentiating drugs, such as SKF 385 and Lilly 18947, is prevalent. It is of interest that Fouts has shown that isoniazid, in contrast to iproniazid, has no activity *in vitro* in the inhibition of drug metabolism even at high concentration. Rowe, *et al.*(6), presented evidence that nialamide, which is a potent inhibitor of MAO, produces a relatively mild degree of hexobarbital potentiation before its characteristic antidepressant effects. These investigators suggested that MAO inhibition and hexobarbital potentiation are unrelated phenomena. LaRoche and Brodie(4) have also shown the lack of relationship between MAO inhibition and potentiation of hexobarbital hypnosis in mice. These investigators have shown that MAO inhibitors are to be considered prolonging agents since they interfere with metabolism of the barbiturate, rather than

true potentiators such as reserpine and chlorpromazine. Further experiments are indicated with tranlycypromine to determine if it acts as a true potentiator. In view of its closer pharmacological relationship to MAO inhibitors, this would seem unlikely.

In any event, physicians generally should be aware of the potential toxicity resulting from the administration of drugs such as the barbiturates to patients treated with MAO inhibitors. The relatively new drug, tranlycypromine, may be added to the known list of MAO inhibitors producing this effect.

ADDENDUM

In correspondence with the Smith Kline & French Labs., the following additional data obtained by them are of interest. On single dose oral administration to mice no evidence

of an increase or decrease in toxicity was obtained with combinations of tranlycypromine, amobarbital and d-amphetamine. In a limited amount of clinical work in man a combination of tranlycypromine (10 mg.), amobarbital (65 mg.) and d-amphetamine (2.5 mg.) produced in only a few cases drowsiness, sedation or confusion.

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EPILEPSY VS. SCHIZOPHRENIA

PHILIP KRAMER, M.D., AND JOHN A. GUIDO, M.D.¹

A caucasoid female, 34, married, had 100 ESTs prior to admission. Reports indicated she had been "drinking heavily" before the birth of her youngest, had used "excessive barbiturates," and "at no time was electroshock effective," "only giving temporary relief of symptoms."

Admission survey reported her "circumstantial, pressure of speech, grimacing, posturing, overwhelming anxiety at times or apparent affective flattening, agitation, lack of insight." Mental examination (by a resident) "alternating between hypo and hyper-activity," "clear and coherent, oriented to time, place, person"; "her memory seemed impaired possibly due to recent electroshock treatment." He then writes, "Because of the persistent fairly wide variations in the patient's motor behavior, it would seem reasonable to continue the first diagnosis." Diagnosis: schizophrenic reaction, catatonic. "Wide variations in motor behavior" might also indicate psychomotor equivalent state.

During pregnancy (1959), she was "obsessed with fears baby would be abnormal

because 'I could smoke and drink alcoholic beverages.'" Her husband wrote, "She took excessive quantities of Nembutal because we could not control her." Background: Mother "heavy drinker"; father, crippled by polio, became a recluse dying shortly thereafter; brother suicide. Patient earned a Baccalaureate Degree (UCLA) majoring in psychology. She worked in a child guidance position for two years, had apparently done well, and left to marry. Her mother died recently.

On admission, October 1960, she was diagnosed schizophrenic, treated with tranquilizers, and did not respond. We first saw the patient February 1961, and felt she should have individual therapy; phenobarbital $\frac{1}{2}$ gr. q.i.d. was added and patient improved. She admitted having temper tantrums and said she occasionally suffered from severe headaches "not helped by aspirin." She admitted many incidents of drunkenness over the years, on one occasion quite defensively saying, "Why not? My mother did. I saw her doing it and she was all right." Twice she returned from home visit with a "hangover." At home she would wait for her husband to go shopping, disappear and return inebriated.

There were days when she was clouded, belligerent, acting out and resistive. At other

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times, she was quiet, cooperative, pleasant in speech, pleading for help. She presented a masklike facies frequently and this we interpreted not as catatonic but external expression of negation and denial directed towards the dislike her mother had for her husband. We were later informed that quite a large sum of money was left the patient if she divorced her husband. Ambivalence on this score caused that symptom. In June 1961, having uncovered a history of "seizures," we requested medical and neurologic consultation. Brain injury or hemorrhage was questionable because nothing in the history suggested this. Consultation proposed epilepsy as a possibility. Spinal tap was not pathologic. Date last ECT, December 16, 1960.

Neurological 7.20.61: Positive Oppenheim, Positive Chaddock (left). *Diagnosis*: Epilepsy or brain tumor. *X-rays*: Pineal body calcified.

Psychologicals 8.10.61: Impression: Emotionally constricted person, evidence of mild brain damage.

EEG 6.12.61: Diffusely abnormal paroxysmal cerebral dysrhythmia, characteristic of convulsive disorder. *EEG* 8.17.61: Impression: Borderline abnormal EEG, anticonvulsant therapy initiated 6.2.61. Compared with previous is less pathological in noticeable absence of burst-like paroxysms of cerebral

activity. The Dilantin and phenobarbital is definitely therapeutic in this patient's chronic brain syndrome with convulsive disorder.

Because of a lack of schizophrenic symptomatology, the presence of temper tantrum behavior pattern as well as a history of "seizures," we felt an organic condition was present. With consultations fortifying our impression, we changed medications to the usual anticonvulsants, causing an improvement. She became pleasant, friendly and cooperative. A review of this case by our staff caused a change in diagnosis to CBS convulsive with psychosis. The patient left the hospital and at last report was doing well. A letter received by our charge nurse indicates that she is socializing, caring for her family and is asymptomatic.

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ECT IN MYOTONIA CONGENITA

BERCHMANS RIOUX, M.D., TEOFILLO EVANGELISTA, M.D.,
AND GROVER ICENOGL, M.D.¹

Textbooks of neurology describe myotonia congenita as being a heredofamilial disease, generally occurring in people of fine physique, and essentially manifested by muscular hyperexcitability. With few exceptions, the nervous system is otherwise functionally intact. Emotions and sudden forced effort reportedly bring on unduly prolonged muscular contractions. Among the many explanations for this condition, the hyperexcitability of the motor end plate is to be mentioned.

Theoretically speaking then, ECT in myotonia congenita would provoke a spasm of the voluntary muscles with respiratory complications, unless administered with succinylcholine. This hypothesis was neither

informed nor confirmed by our review of the literature which contained no instance of ECT in myotonia congenita. We nevertheless decided to use ECT in the following case, with and then without succinylcholine, because of pressing psychiatric indications.

A 32-year-old white male was voluntarily admitted to the hospital for feelings of depression. Lately, he explained, he had experienced insomnia, nausea, and difficulty in concentrating, with loss of interest in his work. Despondent, he had pondered the unworthiness of life because, in his opinion, his emotional condition was a by-product of his physical disease.

Since he could remember, his muscles had been stiff. Whenever he tried to move fast, they would become more rigid and make him freeze on the spot. Such a condition had been misunderstood by his parents, teachers and

¹ North Dakota State Hospital, Jamestown, N. D.

companions, with the result that his adjustment to life had been only marginal. He never learned to be at ease with people. When his condition was finally recognized in the service, he felt that it was too late. He furthermore became discouraged over the inefficacy of the treatment and over the discovery that his mother and two brothers were also afflicted with myotonia congenita.

As expected, the physical examination showed an apparently strong and healthy young man but with the obvious inability to quickly relax his grasp after shaking hands.

Under chemotherapy and group psychotherapy, he grew more and more dissatisfied. Some two months after admission, he bitterly complained that nothing was done for him, that on the contrary his tension and depression were being aggravated. He suggested ECT or even suicide as another alternative.

When we hesitated to grant his demand for ECT, the patient had his family request it for him. We stated that ECT could, under the circumstances, cause a temporary but dangerous spastic status of the voluntary muscles. The hope was that succinylcholine by its action on the motor end plate would reduce neuro-

muscular transmission.

After testing the patient under succinylcholine alone, the decision was reached to proceed with ECT in combination with 10 mg. of succinylcholine intravenously. We used a Medcraft apparatus set at 0.2 second, 90 volts, and with the glissando technique. Our expert crew was alert but did not detect any faulty muscular contraction except for a questionable hypertonus in the lower extremities immediately following the convulsions. The patient himself boasted of complete muscular relaxation for an hour after treatments. Nevertheless, subsequent to his fourth ECT with succinylcholine, he complained of undue headache and nausea which he ascribed to the medication. By that time we had become convinced of being able to handle any complication in this case. The patient was given two more ECT without succinylcholine, and without untoward effects.

SUMMARY

This is presumed to be the first report of ECT successfully administered in a case of myotonia congenita, with and then without succinylcholine.

HEPATOMEGALY ASSOCIATED WITH MARPLAN THERAPY

ALPHONSE TELFEIAN, M.D.¹

Several MAO inhibitors have now a recognized place in the treatment of various mental depressions. Iproniazid (Marsilid), the first of the series, was removed from the market, early in 1961, because of its toxic action on the liver. It was hoped that its successor, isocarboxazid (Marplan), would be free from such hepatic toxicity. A case of "Marplan hepatitis" was reported by Knight(1). I now want to report a case of hepatomegaly associated with Marplan therapy.

A 41-year-old male suffering from mental depression was started on March 10, 1960, on a single daily morning dose of 30 mg. of isocarboxazid. Two weeks later he was feeling much better. He stated that "all symptoms" were gone. But because he was still tense and insomniac he was put on a higher dose of isocarboxazid, *i.e.*, 20 mg., b.i.d. A week later he was feeling so well that program of tapering

off medication was begun. He was to take isocarboxazid 10 mg., t.i.d., to start with. On April 7, 1960, or 4 weeks after Marplan therapy was started, he complained of "blackout" feelings and there was postural hypotension: systolic blood pressure was 125 in sitting position and 95 in standing position. It was decided to reduce the daily dose of Marplan and he was put on 5 mg. t.i.d. He was advised to keep daily in touch, by telephone. Four days later, on April 11, 1960, he had to be hospitalized because of nausea, vomiting, several episodes of collapse on standing up, hepatomegaly.

On admission, physical examination revealed a liver five fingerbreaths below the costal margin and blood pressure was: in decubitus: 130/90; on standing: 90/60. Urine examination and hemogram were within normal limits. SGOT (transaminase) was elevated at 74 units. Thymol turbidity was 2.7 units.

Withdrawal of Marplan was followed by a quick recovery and patient was discharged home after five days of hospitalization.

¹ Maine Medical Center, Portland, Me.

He was subsequently treated with ECT. The last I saw of him was on July 18, 1960; he had made a complete recovery and there was no hepatomegaly.

In conclusion, this is a case of acute hepatomegaly which appeared 4 weeks after starting therapy with Marplan. Withdrawal of the drug brought quick recovery in five days. Early detection was possible by reliance on the clinical symptomatology. This

case was remarkable by the absence of clinical jaundice.

Marsilid, Catron and Nardil are known, on occasion, to be hepatotoxic. It is felt that Marplan should, as well, be classified as a potentially toxic drug to the liver.

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FEVER FOLLOWING ELECTROSHOCK

MORRIS I. VILKIN, M.D.¹

The following is submitted as an interesting case report because of its unusual nature.

A 46-year-old white married male factory worker had become increasingly depressed, withdrawn, agitated, and delusional for 3 months. He felt that co-workers and neighbors were talking about him and watching him. The delusional material appeared 2 weeks after a regimen of a monamine-oxidase inhibitor was started by the family physician.

This man, an adequately developed, adequately nourished person, glanced about the room but denied hallucinations. He was oriented in all spheres and speech was relevant. He related that he was restless, paced the floor, and was unable to be interested in his home or work.

The patient was hospitalized in an open ward and placed on a regimen of trifluoperazine 4 mg. b.i.d. and supportive psychotherapy. Because of little change in symptoms, the patient was started on a series of modified electrotherapy. Laboratory work and a physical examination by an internist were within normal limits.

Since the convulsions were quite soft, his dentures were left in as they involved more than half of his teeth. The treatments were given with atropine grains 1/100, sodium pentothal 250 mg., and succinylcholine chloride 20 mg., all given intravenously 60 seconds prior to electrostimulation. The patient's wrists were easily held together by a nurse. A full rubber mouthpiece was inserted after the patient was asleep.

There were no untoward symptoms after the

first 3 treatments. Four hours after the fourth treatment the patient developed a temperature of 101° oral. This was treated with aspirin and fluids. After the next treatment the patient returned home on a day pass, developed fever, and was seen by the family doctor who diagnosed the symptoms as "flu." After the sixth treatment the patient's temperature rose to 103°. A white count and blood culture were performed. The blood culture was negative. The white count was 10,200 with a slight shift to the left. After the seventh treatment there was an evaluation of temperature beginning 5 hours after the treatment and lasting for 7 hours. Blood cultures were performed at the beginning and end of the temperature elevation. They were negative. White counts were approximately the same. A physical reevaluation was performed by another internist and the patient found to be physically sound.

Something from bygone days came to mind from the bacteriology course in medical school. I suggested a complete dental survey though it had been performed with full mouth x-rays 6 months prior to hospitalization.

A dental survey revealed a broken upper right first molar protruding from the gingiva beneath the partial denture. It had been duly noted by both internists and did not cause the patient discomfort. The dentist noted slight tenderness to pressure. The fragment was imbedded in soft granulation tissue which grossly did not appear to be infected. The fragment was easily removed.

There were no subsequent temperature elevations though he received approximately 6 more treatments. It is unfortunate that no cultures were performed on the tooth

¹ Inglewood, Calif.

that was removed as the dentist felt that there was infection surrounding the apex of the fragment.

It is well known that biting down hard with good dentition can cause a transient

bacteremia which appeared to be precipitated, in this instance, by the patient's biting down slightly more firmly than he would do in normal chewing, even with the softened treatments received.

AMENORRHEA OCCURRING DURING MELLARIL TREATMENT

FREDERICK ZUCKERMAN, M.D., CAPT., M.C.¹

After reading about the cases of inhibition of ejaculation as a side effect of Mellaril in the August issue of the *Journal*(1-3) I took note of one case of a woman on Mellaril who developed amenorrhea during therapy.

The patient, a 34-year-old married white mother of three children (ages 11, 7 and 4 yrs. old), developed an anxiety neurosis in February, 1961, which was characterized by episodic feelings of panic and dread without obvious cause, irritability, insomnia and feelings of depression, accompanied by fears of "going crazy" and "losing control."

She was first admitted to USAF Hospital Andrews on March 15 with these symptoms, which improved quickly with Thorazine 25 mg. q.i.d. for three days, followed by Equanil 400 mg. q.i.d. On March 27, 1961 she was discharged only to be readmitted 9 days later on April 5 with similar complaints, this time being hospitalized for just over one month. On second admission she was started on Mellaril 50 mg. q.i.d. and was kept on this drug until August 11. She was placed on Librium at that time but discontinued it 10 days later and resumed Mellaril spontaneously, which she took up to September 8.

She had had regular periods some 30 days apart lasting 5 days. However, after her period from April 27-31 she was amenorrheic. She thought she was pregnant, but physical and laboratory examinations revealed her not to be.

She missed periods in May, June, July and August and on September 8 Mellaril was discontinued. On September 26 she bled for one day. On October 24 she began a regular 5-day period.

That amenorrhea in this case was the product of Mellaril therapy is only a possibility suggested by a temporal relationship. There is no indication of how this would come about. Nevertheless, sexual function in the male seems to be susceptible to transient impairment on the basis of Mellaril therapy, and should other such cases present themselves amenorrhea may prove to be a reversible side effect of Mellaril.

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3. Heller, J. : *Ibid.*, 118 : 173, Aug. 1961.

¹ Andrews Air Force Base, Washington 25, D. C.

OFFICIAL NOTICES

THE WORLD PSYCHIATRIC ASSOCIATION ASSOCIATION MONDIALE DE PSYCHIATRIE

The World Psychiatric Association was established in June, 1961 during the holding of the Third World Congress of Psychiatry in Montreal. It arose as a most necessary phase in the exceptional growth of psychiatry. As professional and public knowledge of the extent of mental illness has grown, it has become clear that the united efforts of psychiatrist and of citizen, of government and of science, must be called upon.

There is a demand on every side for information about mental illness—for plans for training and research—for service and prevention and for public education. Fortunately, there is a common factor in the psychiatric problems of the various countries. Experience with organization, with treatment, with training, with the fostering of research can be shared and each can build upon what his neighbour has learned.

To foster this exchange is one of the vital purposes of the World Psychiatric Association. In other fields of medicine this exchange between one country and another through the medium of a world organization has met with lively success and the World Health Organization now recognizes over 50 non-governmental world health bodies—some of them operating in fields related to our own.

This is the second reason for setting up the World Psychiatric Association and bringing it into active work with the greatest expedition; for it is most necessary that psychiatry should have a world body to enable us to meet in discussion, in planning and decision, and also to represent us in conference and in debate with other non-governmental world health bodies.

In the most recently established nations, hospitals are being built, new university departments are being founded, research laboratories have been set into operation. In the older countries, every measure is being taken to ensure that the most progressive psychiatric facilities are available to

every citizen.

Reports from a rapidly expanding network of psychiatric centres are passing into the journals. In turn new journals appear every year. Monographs and textbooks in numbers beyond the reading capacity of any single individual are now in every library. Training units are thronged by men and women seeking to equip themselves for their future careers in psychiatry.

New national societies are appearing everywhere—some concerned with professional matters—some devoted to scientific discussion. All these are supported on a wave of public interest and a demand for service which is constantly growing.

Again, a World Psychiatric Association is essential to bring together and to link this widespread growth of psychiatry.

In setting up the World Psychiatric Association, advantage was taken of the fact that there was already in existence the International Organization for the Holding of World Congresses. It had been responsible for the First, Second and Third World Congress of Psychiatry, and being supported by over 30 nations, it was agreed that the World Psychiatric Association should be formed by amending the constitution of the International Society for the Holding of World Congresses and that the further constitutional changes should be brought forward for discussion at a special meeting of the General Assembly to be held in Geneva in the summer of 1962. Geneva is to be the site of the incorporation of the World Psychiatric Association and an office will be maintained in that city in order to facilitate our relations with the World Health Organization and other world bodies.

The objectives of the W.P.A. as presently defined are as follows: To join with our colleagues in medicine in raising the level of health throughout the world by: 1. The exchange of information concerning the diagnosis, prevention and treatment of psy-

chiatric illness ; 2. The encouragement of teaching of psychiatrists and all categories of ancillary personnel ; 3. The stimulation of research and exchange of research information ; 4. The establishment of working relations with the World Health Organization, UNESCO, and all appropriate bodies ; 5. The establishment of regional and continental sections within the framework of the W.P.A. ; 6. The holding of regular world congresses, and of regional and continental meetings, under the auspices of the W.P.A.

At the organizing meetings of the Third World Congress, three committees were set up : first, a committee on constitution. The terms of reference of this committee are to bring in recommendations concerning further constitutional changes for consideration by the General Assembly in the summer of 1962 ; second, a committee on publicity and public relations. The main function of this committee is to see to it that the existence and objectives of the World Psychiatric Association become as broadly known as possible both to psychiatrists and to their other medical colleagues and to the public ; third, a committee on finance with the task of making recommendations regarding the financing of the World Psychiatric Association.

There are approximately 107 different countries. Many of these countries have

several national psychiatric societies and it has been agreed that more than one society from one country can become members of the W.P.A. Some countries have as yet no national psychiatric organization and, in these instances, consideration is presently being given to a plan whereby associate membership in the World Psychiatric Association may be made available to leading psychiatrists in such countries pending the establishment of a national psychiatric association.

There are crucial demands and decisions awaiting us. For in this period of exceptional social transition, great stresses and great opportunities alike are born. Everywhere psychiatry is on the move—going forward on a breadth of front and with a speed unmatched within medicine.

It is the expectation and the hope of the officers of the World Psychiatric Association that national societies in all countries not yet represented will come forward with all possible speed to join us in this great enterprise of building a vigorous, vital and powerful World Psychiatric Association.

The officers are : President : D. Ewen Cameron (Canada) ; Vice-President : F. J. Braceland (U. S. A.) ; General Secretary : Henri Ey (France) ; Associated Secretaries : J. J. Lopez-Ibor (Spain), and W. Sargant (Great Britain) ; and Treasurer : P. Sivadon (France).

PRESENTING A PAPER

In my opinion the reading aloud of a written paper is a cardinal sin, as deplorable as meretricious writing ; it is a wicked procedure utterly contemptuous of the audience and unfair to it.

—GEORGE SARTON

NEWS AND NOTES

AUSTRIAN MEDICAL SOCIETY FOR PSYCHOTHERAPY.—On February 6, 1962, the Society held its 12th annual meeting at the Vienna Poliklinik Hosiptal. Professor Viktor E. Frankl, M.D., Ph.D., was re-elected president. During 1961, papers were read by Professor Wayne E. Oates (Louisville, Kentucky) on "Medical Ministry," Rev. Melvin A. Kimble (Head Chaplain, Mississippi State Hospital) and Swami Nityabodhananda (India) on "Eastern Wisdom and Western Psychotherapy," Professor Kenichi Kishimoto (Japan) on "Logotherapy and Psychotherapy Based on Zen Buddhism and Other Oriental Thought" and others. The 5th International Congress for Psychotherapy was co-sponsored by this Society.

NAPA STATE HOSPITAL CONFERENCE.—Dr. David C. Wilson, Chief of Professional Education, Napa State Hosiptal, California, announces the Fourth Invitational Conference to be held at Napa State Hospital, May 19, 1962. The symposium will deal mainly with "The Psychopharmacologic Revolution—A Decade Later."

Distinguished speakers will include Daniel Blain, M.D., Paul H. Hoch, M.D., Keith F. Killam, Jr., Ph.D., Enoch W. Callaway III, M.D., Walter E. Barton, M.D., Norman Q. Brill, M.D., and Leo Hollister, M.D.

For further information write to David C. Wilson, M.D., Napa State Hospital, Imola, Calif.

SOUTHWESTERN MEDICINE WRITING AWARDS.—Scale prizes valuing \$500.00 will be awarded annually for the best original scientific papers published in Southwestern Medicine. The awards will be made in two classifications: regional and national. All physicians practicing in West Texas, Arizona, Nevada or North Mexico may compete for the regional award, and all those in the U.S.A. outside the regional area for the national award. Papers and a self addressed envelope should be submitted to Lester C. Feener, M.D., Editor, 310 North

Stanton Street, El Paso, Texas, not later than Sept. 1, 1962.

LOUISIANA GROUP PSYCHOTHERAPY SOCIETY.—The First Annual Group Psychotherapy Institute will be held in New Orleans April 6 and 7, 1962.

The program will include workshops for training experience. The guest lecturer will be Dr. Hugh Mullan of New York City. For further information write to Dr. Arthur S. Samuels, Institute Director, 1524 Aline St., New Orleans 15, La.

THE CHALLENGE IN PSYCHOTHERAPY.—The Department of Neurology and Psychiatry of the University of Virginia will hold a conference on April 13-14, 1962 on "Conditioning Therapies versus Psychoanalysis."

The following speakers are scheduled: Dr. Percival Bailey, Illinois State Psychiatric Institute; Dr. W. Horsley Gantt, V. A. Hospital, Perry Point, Md.; Dr. Corbett Thigpen, Medical College of Georgia; Dr. A. Hussain, State Hospital, South Dakota; Dr. Joseph Wolpe, University of Va. School of Medicine; Mr. Andrew Salter, New York City; Dr. Cyril Franks, N. J. Neuropsychiatric Institute; Dr. A. J. Bachrach, University of Va. School of Medicine; Dr. Peter Lang, University of Pittsburgh; Dr. L. J. Reyna, Boston University.

EXISTENTIAL PSYCHOLOGY AND PSYCHIATRY.—The Western Society for Existential Psychology and Psychiatry is being formed to scientifically study the newer concepts of Existence Analysis and Daseinanalyse. Those interested in possible participation should write to Arthur Burton, Ph.D., 5055 Northlawn Drive, San Jose 30, Calif.

N. Y. RESEARCH INSTITUTE IN MENTAL RETARDATION.—Dr. Paul H. Hoch, Commissioner of the New York State Department of Mental Hygiene, has appointed Dr.

George A. Jervis director of the new Research Institute in Mental Retardation to be located on Staten Island.

Dr. Jervis, director of psychiatric research at Letchworth Village, will retain his present responsibilities at Letchworth while making preparations for the opening of the institute, the construction of which is expected to begin in the spring of 1963. It is believed to be the first of its kind in the world providing a comprehensive mental retardation research program in the basic sciences.

DOROTHEA DIX HOSPITAL RESIDENCY.—A three-year residency program in psychiatry has recently been approved at Dorothea Dix Hospital, Raleigh, North Carolina.

SYMPOSIUM ON HEADACHE.—The 14th annual meeting of the American Academy of Neurology, April 23-28, Statler-Hilton Hotel, New York City, will hold a Symposium on Headache: Its Mechanism, Diagnosis and Management. All interested physicians are invited to attend the Symposium on Saturday, April 28.

The introductory and closing discussions will be by Houston H. Merritt, Professor of Neurology, College of P. & S., Columbia University.

INDUSTRIAL COLLEGE OF THE ARMED FORCES.—A. T. Wilson, Jr., Major General, USAF, Deputy Commandant, School of Extension Studies reports that the College offers a 10-month residence and correspondence course in "The Economics of National Security" for senior military officers and civilian executives of the Federal Government to enhance their preparation for important command, staff, and policy making positions in the national and international security structure. The course consists of four parts: Background Information; Resources and Facilities; Foreign Aspects of National Security; and Problems of National Security. Certificates are issued upon completion of the course.

This is the second year that such a course is being offered. Due to the great re-

sponse to a similar course last year the capacity of the College has been increased so as to accommodate twice the number of students. The correspondence course is being offered to those who are unable to receive residence instruction. So far, more than 10,000 persons have completed the course.

Application should be made to the Commandant, Industrial College of the Armed Forces, Washington 25, D. C., Attn.: Correspondence Course. Applicants should have a college education, or compensating qualifications.

SECOND CANADIAN INSTITUTE ON MENTAL HEALTH SERVICES.—The Institute was held in Ottawa at the Chateau Laurier, January 15-18, 1962 under the sponsorship of the Canadian Psychiatric Association. One hundred twenty delegates, representing psychiatry, psychology, social work, occupational therapy and psychiatric nursing, from the 10 provinces of Canada participated. The theme of the Institute was an examination of the following five topics from the interim reports on mental health services for Canada prepared by the Committee on Mental Health Services of the Canadian Mental Health Association which were discussed in plenary and group sessions: 1. Nursing services should be unified in that all personnel regularly on the ward of a hospital should be directly responsible to the nurse in charge; 2. The professional responsibility of the occupational therapist should include the provision of all activities programs such as recreational therapy, music therapy, industrial therapy, etc.; 3. Integration of therapeutic services within the community, stressing rehabilitation and continuity of care; 4. Government-operated mental health services should tend to decentralize as far as staffing and financing are concerned, with the appointment of local boards for mental health centres; and 5. Any member of the psychiatric treatment team, adequately trained and medically supervised, can engage in individual or group therapy.

The final report of the CMHA Committee on Health Services will be published in 1962.

Dr. Jack R. Ewalt, Professor of Psychiatry at Harvard and Director of the U. S. Joint Commission on Mental Illness and Health, delivered the Academic Lecture and drew comparisons between the Canadian and U. S. recommendations. All members of the Institute visited the new Ottawa Mental Health Centre at the Royal Ottawa Sanatorium where they saw and heard discussed the developments and organization of a community mental health centre, sponsored by the Ontario Department of Health in cooperation with the Board of Trustees of the Royal Ottawa Sanatorium. The Centre will eventually be operated under the sole jurisdiction of the Sanatorium Board, and the Dept. of Psychiatry of the University of Ottawa will be centred there. Following this visit Institute and Sanatorium Board members were entertained at dinner by the Honourable M. B. Dymond, Ontario Minister of Health.

Dr. Jean Saucier, CPA President, presided at the Institute banquet which had as guest speaker, Dr. Robert H. Felix, Director, National Institute of Mental Health and an Honorary Member of CPA; Dr. Felix's subject was "Variations on the Theme of Community Psychiatry."

FAMILY PROCESS.—This new publication, to be issued semi-annually beginning in March 1962 at \$5.00 per year, will be published by the Mental Research Institute of the Palo Alto Medical Research Foundation.

Nathan W. Ackerman, M.D., is chairman of the Editorial Board which includes Gregory Bateson, M.A., Iago Galdston, M.D., Roy Grinker, M.D., Don D. Jackson, M.D., Benjamin Pasamanick, M.D. Inquiries should be sent to Family Process, 428 E. Preston Street, Baltimore, Md.

THE DAVID C. WILSON LECTURE.—The fourth annual David C. Wilson Lecture will be given at the University of Virginia School of Medicine on Friday, April 20, 1962. The speaker will be Dr. Horsley Gantt of Johns Hopkins University.

This lecture, an annual event established in honor of Dr. Wilson, former chairman of the Department of Neurology and Psy-

chiatry at the University of Virginia Hospital, is supported by the Mona Bronfman Sheckman Foundation and the Robert Goldstein Memorial Fund.

PSYCHIATRISTS MEET WITH RECREATION SPECIALISTS TO DISCUSS RESEARCH IN THERAPEUTIC RECREATION.—A committee of eminent psychiatrists under the chairmanship of Mathew Ross, M.D., Medical Director, APA, met with recreation specialists at the National Education Association's headquarters November 1, 1961. The purpose of the meeting was to explore research needs in therapeutic recreation and to discuss the possibility of an interdisciplinary attempt to solve some of the most pressing problems.

It was recognized that recreation has long contributed to the well-being of mankind. Most psychiatrists practicing in public hospitals such as State and Veterans hospitals and some large private psychiatric centers believe that recreation has therapeutic value. However, psychiatrists in private practice, clinics and general hospitals are not, as a rule, using recreation in the treatment of mental illness. Two reasons are suggested for this situation: 1. Departments of psychiatry in schools of medicine, fail to include in the education program information concerning the value of recreation in treatment; 2. Scientific evidence for recreation as a treatment method is lacking.

The psychiatrists at the Workshop believe that recreation is useful in the treatment of mental illness. The problem is to demonstrate how and why. Some scientific studies of therapeutic recreation have been published, but there seems to be a time lag in the application of these findings to everyday recreation practice. It appears that a better means of communicating research findings is needed.

A major portion of the Workshop was devoted to the formulation of questions or problems, for which presently there are no scientific answers, nor an adequately stated hypothesis.

These problems appear to focus on four areas: 1. What is the intrinsic value in a specific recreational activity? 2. What types of leadership are helpful in working

with patients? 3. What should be the basis and values of "prescribed" over "voluntary" selected activity? 4. Is there a relationship, not necessarily cause and effect, between the recreational experiences of people and mental illness?

The following recommendations were agreed upon: 1. Regional workshops to include psychiatrists, recreation specialists and members of allied professions should be conducted in order to plan for research in therapeutic recreation. 2. Graduate students majoring in recreation should be encouraged to undertake studies in therapeutic recreation, as part of the degree requirement. 3. Programs for the training of research specialists in recreation should be developed.

Martin W. Meyer, Ed.D.,
Workshop on Research in
Therapeutic Recreation

GROUP PSYCHOTHERAPY FOUNDATION, INC.
—This Foundation with offices at 1790 Broadway, New York, has been established for the purpose of promoting the expansion of educational facilities in the field of group psychotherapy and to develop new methods of group psychotherapy for the treatment and prevention of mental illness.

The following officers have been elected: President, Lewis H. Loeser of Irvington, N. J.; 1st V.P., Jack D. Krasner, Ph.D., Englewood, N. J.; 2nd V.P., Donald M. Carmichael, M.D., Orangeburg, N. Y.; Treasurer, Mrs. Asya L. Kadis, New York City; Secretary, Helene Papanek, M.D., New York City.

The Board of Directors will include: Dr. Nathan Beckenstein, Dr. Milton M. Berger, Dr. Nathaniel J. Breckir, Dr. Samuel B. Hadden, Dr. Maurice E. Linden, Dr. Abbott Lippman, Mr. Mortimer Schiffer, Mr. Samuel R. Slavson, Dr. Aaron Stein.

INSTITUTE FOR THE CRIPPLED AND DISABLED.—A workshop "Concepts of Mental Hygiene for Rehabilitation Personnel" will be held on June 6-8, 1962 in New York City. Some OVR stipends are available.

Applications should be made by March 30, 1962. Inquiries should be addressed to: Director of Professional Education, Insti-

tute for the Crippled & Disabled, 400 First Avenue, New York 10, N. Y.

SOUTHERN CALIFORNIA PSYCHIATRIC SOCIETY.—The SCPS will hold its tenth annual meeting at the Biltmore Hotel, Los Angeles, Saturday, April 28, 1962. The morning session will be devoted to workshops, and at the afternoon session Dr. David Hamburger, Professor of Psychiatry, Stanford University School of Medicine, will speak on "Personal Crisis, Endocrine Responses and Coping Behavior," to be followed by papers by members.

As enrollment in the workshops is limited the committee advises all those interested to send in their application with first, second and third choices, and a \$1.00 fee as early as possible.

The following workshops will be held: Problems of Adolescence, The Autistic Child, Pharmacologic Treatment, Legal Aspects of Psychiatry, Ambulatory Schizophrenia, Day Hospitals, Addiction Problems, Psychiatric Emergencies, Modifications of Group Psychotherapy, Psychiatric Education—undergraduate, graduate, postgraduate, The Role of Physical Treatments as ECT, Hydrotherapy, etc., Psychotherapy Failures, Psychiatry and Religion, Mental Health Clinics, Techniques in Handling Borderline and Character Disorders.

DR. WILFRED C. HULSE.—Dr. Hulse, Associate Clinical Professor of Psychiatry at Albert Einstein College of Medicine, New York City, died Jan. 10, 1962 at the age of 61.

Dr. Hulse was born in Germany and graduated from the University of Breslau. He fled the country in 1933 and came to the United States in 1935. Here he established The Blue Card, Inc., an organization rendering assistance to Jewish immigrants who were victims of Nazi persecution. He served on the staff of Mount Sinai Hospital, and during World War II was an officer in the Army of the United States. He was a member of the Editorial Board of *Aufbau*, the German-language weekly. In addition to the APA, Dr. Hulse was a member of the American Orthopsychiatric Association

and the American Medical Association. He was president of the New York Council of Child Psychiatry and past president of the Eastern Group Psychotherapy Association.

CANADIAN ASSOCIATION FOR RETARDED CHILDREN.—The fifth Canadian Conference on Mental Retardation will be held at the Nova Scotian Hotel, Halifax, September 18-21, 1962, sponsored by the Canadian Association for Retarded Children, 317 Avenue Rd., Toronto 7, Ontario. Theme: "The Community—A Necessary Member of the Team." For further information contact: Mrs. L. J. Stuart, CARC National Conference Chairman, 610 Kenaston Ave., Town of Mount Royal, Que.

The sixth Canadian Conference on Mental Retardation will be held at the Marlborough Hotel, Winnipeg, Manitoba, September 23-26, 1963.

The proceedings of the fourth Canadian Conference on Mental Retardation, held September 26-28, 1961, at Vancouver, B. C., has been published by the Canadian Association for Retarded Children, 153 pages. Price \$1.00.

THE AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY, INC.—The following are new Diplomates who successfully completed the Board examination given in December, 1961:

PSYCHIATRY

Ackerly, William C., M.D., Boston, Mass.
Altman, Henry G., M.D., Cambridge, Mass.
Alshuler, Kenneth Z., M.D., New York, N. Y.
Ambrosino, Salvatore, V., M.D., Flushing, N. Y.
Anderson, Arthur Alexander, Jr., M.D., New York, N. Y.
Ashman, Stuart, M.D., New York, N. Y.
Barenberg, Paul A., M.D., West Chester, Pa.
Bartlett, James Williams, M.D., Rochester, N. Y.
Beatty, Silas R., M.D., Radford, Va.
Bitman, Harold L., M.D., Jenkintown, Pa.
Bolocan, Hyam, M.D., New York, N. Y.
Boonin, Nathaniel N., M.D., Princeton, N. J.
Breslin, Marianne S., M.D., Chapel Hill, N. C.
Butler, Robert Neil, M.D., Bethesda, Md.
Cahn, Burton, M.D., Philadelphia, Pa.
Clark, Francis L., Jr., M.D., Washington, D. C.
Clarke, Franklin R., M.D., Philadelphia, Pa.
Cook, Robert P., M.D., Riverside, Calif.
Costa, Joseph S., M.D., Arlington, Va.
Cziller, Elizabeth, M.D., Brandon, Man.
Danna, Dorothy Rose, M.D., Topeka, Kan.
Digrys, Vytautas Peter, M.D., Massillon, O.
 Dorfman, Wilfred, M.D., Brooklyn, N. Y.
Dunkell, Samuel V., M.D., New York, N. Y.
Dye, Eugene N., M.D., New York, N. Y.
Effen, Hilda, M.D., San Mateo, Calif.
Emerson, Richard Putnam, M.D., Coral Gables, Fla.
Ernst, Ilhan, M.D., Williamsburg, Va.
Fleischmann, Gisela Ebert, M.D., Great Neck, N. Y.

Foy, James Langdon, M.D., Washington, D. C.
Freeman, Leo C., M.D., Philadelphia, Pa.
Freiman, Gerald, M.D., Forest Hills, N. Y.
Fuchs, Ruth, M.D., New York, N. Y.
Gold, Frank S., M.D., Cleveland, O.
Goldin, Victor, M.D., New York, N. Y.
Hacken, Emanuel, M.D., Poughkeepsie, N. Y.
Hader, Marvin, M.D., New York, N. Y.
Hall, Alvin P. M., M.D., Cleveland, O.
Halpern, Werner Israel, M.D., Rochester, N. Y.
Hamilton, John Marshall, M.D., Jessups, Md.
Harris, Stephen M., M.D., Miami, Fla.
Hartert, Dietrich, M.D., Cleveland, O.
Hayder, Dietrich W., M.D., Norfolk, Va.
Hirsch, Robert, M.D., Long Island, N. Y.
Hupalowsky, Eugene Thomas, M.D., Scarsdale, N. Y.
Jenkins, Rose DeMoll, M.D., Los Angeles, Calif.
Joseph, S. Seymour, M.D., Roslyn Harbor, N. Y.
Kaelbling, Rudolf, M.D., Columbus, O.
Kalogerakis, Michael George, M.D., New York, N. Y.
Katz, Elsa S., M.D., New York, N. Y.
Kaye, A. Stanley, M.D., New York, N. Y.
Kelley, Robert L., M.D., Lexington, Mass.
Kliman, Gilbert Wallace, M.D., White Plains, N. Y.
Kramer, John Cecil, M.D., Great Neck, N. Y.
Kravitz, Arthur Richard, M.D., Waban, Mass.
Kulp, David William, M.D., Lancaster, Pa.
Kwapien, Frederic J., M.D., Media, Pa.
Lefkowitz, Henry J., M.D., New York, N. Y.
Machlin, Stanley David, M.D., Maywood, N. J.
McCartney, James Robert, M.D., Garden City, N. Y.
McKinley, Robert A., M.D., White Plains, N. Y.
McLean, Alan A., M.D., New York, N. Y.
McNichol, Ronald William, M.D., Pineville, La.
Mitchell, Nellie Louise, M.D., Jersey City, N. J.
Mitchell, Robert Alexander, M.B., Ch.B., Albany, N. Y.
Molling, Peter A., M.D., Baltimore, Md.
Munster, Anna J., M.D., Pearl River, N. Y.
Murphy, George E., M.D., St. Louis, Mo.
Nichtern, Sol, M.D., New York, N. Y.
Nielsen, Donald R., M.D., Detroit, Mich.
Parkhurst, George E., M.D., Fort Worth, Tex.
Payn, Stephen B., M.D., New York, N. Y.
Pellathy, Stephan I., M.D., Kings Park, N. Y.
Pick, Rubin, M.D., West Brentwood, N. Y.
Polanka, William, M.D., Hamilton, O.
Quen, Jacques M., M.D., New York, N. Y.
Remington, Frederick B., M.D., Syracuse, N. Y.
Rich, Theodore, M.D., Los Angeles, Calif.
Robles, Carlos J., M.D., Abington, Pa.
Rolland, Ruick S., M.D., Cambridge, Mass.
Rosenblatt, Malcolm Lee, M.D., Boston, Mass.
Rothenberg, Michael Bruce, M.D., New York, N. Y.
Rubin, Bernard, M.D., Chicago, Ill.
Rubin, Matonah, M.D., New York, N. Y.
Rundle, Frank L., M.D., Madison, Wis.
Sachs, David Morton, M.D., Philadelphia, Pa.
Salmon, Watt T., M.D., Topeka, Kan.
Sanders, David S., M.D., New York, N. Y.
Schaengold, Richard, M.D., Washington, D. C.
Schechter, David Edward, M.D., New York, N. Y.
Schulman, Jerome L., M.D., Chicago, Ill.
Schultz, Donald H., M.D., New York, N. Y.
Schwartz, Barry Jay, M.D., Bala-Cynwyd, Pa.
Scott, Morgan Eugene, M.D., Atlanta, Ga.
Selbst, Ronald Avrum, M.D., Detroit, Mich.
Shapiro, Jerome Edwin, M.D., Baltimore, Md.
Shaw, Robert, M.D., New York, N. Y.
Shulkin, Mark Weiss, M.D., Upper Darby, Pa.
Silbert, Robert, M.D., New York, N. Y.
Simon, Ellen I., M.D., Princeton, N. J.
Small, Harvey Caldon, M.D., Fort Walton Beach, Fla.
Small, Joyce Graham, M.D., Portland, Ore.
Smith, David H., M.D., Wheeling, W. Va.
Smith, Joseph H., M.D., Bethesda, Md.
Smith, Robert Edward, M.D., Durham, N. C.
Squatterito, Umberto, M.D., Dover, O.
Stein, Robert B., M.D., Topeka, Kan.
Stewart, Allan H., M.D., Falls Church, Va.
Strang, William C., M.D., Indianapolis, Ind.
Strobs, Tina B., M.D., Larchmont, N. Y.
Tien, H. C., M.D., East Lansing, Mich.

van Amerongen, Suzanne Taets, M.D., Boston, Mass.
 Vargas, M. James, M.D., Fort Leonard Wood, Mo.
 Vigoreaux, Jose Ramon, M.D., Bayamon, Puerto Rico
 von Mendelssohn, Felix, M.D., Arlington, Va.
 Wachtel, Arthur A., M.D., New York, N. Y.
 Weintraub, Walter, M.D., Baltimore, Md.
 Weissberg, Josef H., M.D., New York, N. Y.
 Wingfield, Robert Terrell, M.D., Lynchburg, Va.
 Yorborg, Leon, M.D., New Rochelle, N. Y.
 Zucker, Howard D., M.D., New York, N. Y.

Chen, Chao Jen, M.D., Troy, N. Y.
 (certified in Supplementary Psychiatry)
 Mauceri, Jennie, M.D., Woodside N. Y.
 (certified in Supplementary Psychiatry)

NEUROLOGY

Abramowicz, Artur, M.D., Boston, Mass.
 Atkinson, Matthew S., III, M.D., Baltimore, Md.
 Cassidy, Robert John, M.D., Schenectady, N. Y.
 Christoff, Nicholas, M.D., New York, N. Y.
 Cohen, Bernard, M.D., New York, N. Y.
 Decker, Elisabeth Burnett, M.D., New York, N. Y.
 deNapoli, Robert Anthony, M.D., New York, N. Y.
 Fromm, Gerhard H., M.D., New Orleans, La.
 Hass, William K., M.D., Tensify, N. J.
 Howard, Frank M., Jr., M.D., Rochester, Minn.
 Jeffreys, William Huckel, M.D., Danville, Pa.
 Richards, Nelson G., M.D., Cleveland, O.
 Rosner, Louis Joseph, M.D., Los Angeles, Calif.
 Smith, Bushnell, M.D., Coatesville, Pa.
 Stuart, Thomas J., M.D., Neffsville, Pa.
 Torres, Fernando, M.D., Minneapolis, Minn.
 Vaughan, Herbert Getty, Jr., M.D., New York, N. Y.

Chodosh, H. Louis, M.D., Paterson, N. J.
 (certified in Supplementary Neurology)

THE AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY, INC.—The following are those certified in Child Psychiatry at the Board meeting in February 1962:

Bracken, Clifford Charles, M.D., Philadelphia, Pa.
 Brown, Saul L., M.D., Los Angeles, Calif.
 Brozovsky, Morris, M.D., Brooklyn, N. Y.
 Brugger, Thomas, M.D., St. Louis, Mo.
 Chester, Alice S., M.D., Oak Park, Mich.
 Clower, Virginia Lawson, M.D., Cambridge, Mass.
 d'Amato, Gabriel, M.D., Augusta, Ga.
 Dunton, Harlow D., M.D., New York, N. Y.
 Eger, William Henry, M.D., Newtonville, Mass.
 Fountain, Gerard, M.D., Scarsdale, N. Y.
 Freeman, David Franklin, M.D., Chapel Hill, N. C.
 Gilder, Rodman, Jr., M.D., Scarsdale, N. Y.
 Gordon, Kenneth H., Jr., M.D., Philadelphia, Pa.
 Hansen, Howard, M.D., Los Angeles, Calif.
 Harrison, Saul I., M.D., Ann Arbor, Mich.
 Holmes, Donald J., M.D., Ann Arbor, Mich.
 Jaffe, Marvin, M.D., Denver, Col.
 Kagan, Robert, M.D., Beverly Hills, Calif.
 Kempf, John P., M.D., Ann Arbor, Mich.
 Kenward, John Franklin, M.D., Chicago, Ill.
 Klumpner, George Henry, M.D., Oak Park, Ill.
 Kolansky, Harold, M.D., Elkins Park, Pa.
 Krinsky, Albert, M.D., Worcester, Mass.
 Krush, Thaddeus Paul, M.D., Omaha, Neb.
 Lesser, Stanley R., M.D., New York, N. Y.
 Lipton, Edgar Louis, M.D., New York, N. Y.
 Martin, Jack, M.D., Dallas, Tex.
 Mendelssohn, Roy M., M.D., St. Louis, Mo.
 Moore, William Thomas, M.D., Jenkintown, Pa.
 Motto, Rocco L., M.D., Los Angeles, Calif.
 Pfeiffer, Burton B., M.D., New York, N. Y.
 Radin, Sherwin Seth, M.D., Syracuse, N. Y.
 Roosen, Willem W., M.D., New York, N. Y.
 Ross, Donald Campbell, M.D., Philadelphia, Pa.
 Sacks, Herbert S., M.D., New Haven, Conn.
 Schwartz, Melvin L., M.D., Beverly Hills, Calif.
 Slaff, Bertram Allen, M.D., New York, N. Y.
 Spurluck, M. Jeanne, M.D., Chicago, Ill.

Sullivan, Robert Browning, M.D., Chevy Chase, Md.
 Teicher, Joseph David, M.D., Beverly Hills, Calif.
 Toolan, James Michael, M.D., New York, N. Y.
 van Amerongen, Suzanne Taets, M.D., Boston, Mass.
 Weiss, Samuel, M.D., Chicago, Ill.
 Westman, Jack Conrad, M.D., Ann Arbor, Mich.
 Wolman, Harold M., M.D., Boston, Mass.

REGIONAL RESEARCH CONFERENCE, MONTREAL.—The next conference will be held, under the joint aegis of the APA and McGill University, on April 6-7, 1962 at McGill University, Montreal, Canada.

All correspondence, including requests for further information, should be addressed to Dr. Alan M. Mann, Montreal General Hospital, Montreal 25, Canada.

MERGER OF MENTAL HEALTH AGENCIES.—The National Organization for Mentally Ill Children, organized in 1951, has agreed to consolidate its assets and program with those of the National Association for Mental Health and give up its status as a separate organization. The agreement of consolidation has been approved by the members of each organization and has been signed, but the consolidation must yet be approved by the Supreme Court of the State of New York. Steps are being taken to secure such approval.

Announcement of the consolidation has been made jointly by Robert P. Marcus, president of the children's group and Frazier Cheston, president of the Mental Health Association. The consolidation affects only headquarters operations, and local mergers of affiliated units will be encouraged on a voluntary basis.

The National Organization for Mentally Ill Children with 22 chapters in 9 states was formerly known as the League for Emotionally Disturbed Children.

According to statistics of the children's group there are more than a half million mentally ill children in the United States, most of whom are suffering from the condition classified as childhood schizophrenia. Less than 2% receive any kind of care: 4,000 between the ages of 5 and 15 are in state mental hospitals. In only 46 of 231 state hospitals are they taken care of in separate wards. Another 2,500 mentally ill children are treated in separate residential or day-care treatment centers in the community.

BOOK REVIEWS

THE MURDERER AND HIS VICTIM. By John M. MacDonald, M.D. (Springfield, Ill.: Charles C Thomas, 1961, pp. 420. \$10.50.)

For too many citizens, murder and other crimes are too far away; little known, little understood, and perhaps even too little cared about. Part of the outrage we feel in the presence of heinous crime originates in the violent smashing of our smug assumption that crime cannot, will not touch us personally.

Dr. MacDonald's book, *The Murderer and His Victim*, should help in correcting our detachment. When the detachment has been significantly reduced, we ought to be able to view the problems of this kind of crime with enough attention and energy to solve them faster.

This book is a meticulous and vivid examination of the experience "murder," from many points of view. Murderers are described, and their psychology examined. The victims of murderers are looked at, and there is consideration of the contribution by some victims to their own murders. That form of legal death-dealing known as execution is discussed in its several ingenious methods. We find also the murders of fiction, the widely shared intrapsychic, and thus uncommitted murders of fiction—the murders of the unmurderous.

There is almost no conceivable method of causing death which is not listed by Dr. MacDonald as having been used in a historically documented murder. The scope of the study, the numbers of the killings, and the extraordinary means used, combine to produce a complicated emotional state in the reader. It includes, among many other feelings, horror at what men can do, and admiration for the extent and inclusiveness of this study.

Dr. MacDonald has specialized for many years in forensic psychiatry, and has had extensive experience with accused persons from the District Courts of Colorado. The difficult and complicated problems of those who plead "not guilty by reason of insanity" have attracted his interest, and are extensively considered in the book. There are several chapters in which the relationships between psychiatric syndromes and "insanity" are examined. As usual, by the very nature of determinations in this field, one is left feeling a little unsatisfied, with some sense of lack of closure.

This book takes us as far as possible, in the present state of knowledge, into the considera-

tion of murder. Still unexplored, and most attractive to the interest, is systematic and codified information of the psychogenesis of the symptom murder, which must precede attempts (utopian?) to prevent it in all its forms, personal, legal and international.

F. G. E.

PSYCHOSOMATIC RESEARCH. By Roy R. Grinker, M.D. Revised edition. (New York: Grove Press, 1961, pp. 221. \$1.95.)

Dr. Grinker described this work as "an amplification and extension of [his] personal ruminations, supplemented by an overview of the field." The first (1952) edition was "also an attempt to develop a conceptual outline for new programs of psychosomatic research which may be valuable to others." The epilogue states: "Today, eight years since the original publication of *Psychosomatic Research*, there is as yet no need to revise the book radically." If this is indeed true and psychosomatic medicine has not changed since shortly after its birth, the reader is justified in asking whether it ever was viable at all, and if it was, what stunted its development. These questions cannot be answered directly from the contents of this book.

The first chapter, called "Introduction," states emphatically that "psychosomatic" refers to "a conceptual approach to *relationships*, not new physiological or psychological themes or new therapeutic approaches to illness." Discussion of this point in Dr. Grinker's book is clearly formulated and well stated. Dr. Grinker's next point—that the subject suffers from widespread "loose application of superficial psychological interpretations" as well as "uncontrolled conclusions based on incomplete studies"—is also a good one and probably explains on one hand the reluctance of most physicians to be swayed by psychosomatic enthusiasts and on the other the lack of substantial growth of the subject itself.

The second chapter is a fragmentary historical review, which is accurate in a very limited way. The third chapter is called "Current Conceptual Models" and consists of statements of the hypotheses of various permanent psychosomaticists of the 30's and 40's. Dr. Grinker's catalogue is largely uncritical; it could have pointed out that the present unhappy state of psychosomatic medicine is in large measure due to uncritical acceptance of these hypotheses. Thus it is clear to any

competent physician that Dunbar's book could have been written only by one profoundly ignorant of medicine (as well as of psychology) and that Franz Alexander's curious equation-like hypotheses have never been supported by substantial evidence.

Most of the rest of the book is a discussion of Dr. Grinker's views on psychosomatic differentiation from womb to at least adolescence. This section of the book contains many loosely-worded statements comprising undefined terms and errors of fact. There are also two chapters on the functions of the mouth, to which the same criticisms apply. The tenth chapter is the most valuable in the book; it comprises a presentation of the Field Theory—"The field is a continuum of patterned transactional processes, the structure-function of all the other parts of the field, and therefore, of the whole field." The extended discussion of Dr. Grinker's Field Theory is of course excellent. However, even though a decade or more has passed since its enunciation, there is still no evidence that its generalities can be made specific enough to serve as a basis of either medical practice or research.

The cover bears an enigmatic photograph of a man with a large purple arrow pointing to the back of his neck. Either the photograph represents an attempt by the publisher to mislead the public into buying the book as a guide to the self-treatment of so-called psychosomatic symptoms or it represents the reaction—conscious or unconscious—of someone on the publisher's staff to still another disappointing discussion of psychosomatic medicine.

MARK D. ALTSCHULE, M.D.,
Waverley, Mass.

LA CONDOTTA ANOMALA NEL DIRITTO CIVILE E NEL DIRITTO PENALE. By *Enrico Altavilla*. (Torino: Unione Tipografica Editrice Torinese, 1960, 2 vol., pp. 470, 531 respectively.)

It is well-known that a great school of criminology flourished in Italy at the time of Lombroso and Ferri, but not so many people seem to be aware of the existence there today of a brilliant group of criminologists. One of their foremost representatives is Professor Altavilla, of Naples, the author of several excellent textbooks and many monographs (some of them translated in five languages, though none in English to this date). Among Altavilla's main works are: *Il delinquente*, a treatise on criminal psychology; *Il suicidio*, a study of suicidal individuals from the point of view of psychology, criminalistics and law; *La psicologia giudi-*

ziaria, a psychological study of the accused, the victim, the witness, the judge and the defense lawyer; *La dinamica del delitto*, a vast inventory of the psychopathology of crime.

In the present book Altavilla discusses the problem of abnormal behavior from the combined points of view of psychology, psychopathology and law (with some emphasis on the legal aspect). Vol. I is devoted to a discussion of abnormal behavior in general, the various concepts and criteria of normal and abnormal, legal responsibility, civil capacity, and problems pertaining to the victim. Vol. II is devoted to the varieties of abnormal behavior and its various sources: physical and mental diseases, alcohol and drugs, psychopathy and allegedly congenital character disorders, and the occasional offender. Even for those who would not agree with all the author's theories, this book is a gold mine of information, with an extensive bibliography and a good index.

H. ELLENBERGER, M.D.,
Montreal, Canada.

PSYCHIATRY—BIOLOGICAL AND SOCIAL. By *Ian Gregory*. (Philadelphia and London: W. B. Saunders, 1961, pp. IX, 577.)

This text is divided into two parts, "General Principles" and "Specific Syndromes." It is a self-admitted "ambitious undertaking for any one person." There is, namely, not only a "holistic and eclectic" orientation, but there is also the attempt made to integrate "important material from various major schools of thought," and to "represent a balanced synthesis of American and European viewpoints." The informed reader will easily find what he is looking for. Whether this will happen to the beginner appears doubtful. There is no indication of the writer's own viewpoint, unless one assumes that it is "holistic and eclectic"—two rather big words in psychiatry. It is only fair to mention that this book is neither more biological nor more sociological than a considerable number of other textbooks. With all due respect for the writer's erudition and indefatigability, one cannot but think of the French saying: "Qui trop embrasse mal étreint."

EUGEN KAHN,
Houston, Tex.

CORRECTION

Through an oversight in my review of the book *Psychotherapy of the Psychoses* (Jan. 1962) edited by Burton, mention was not made of the publication in 1952 of a book under a similar title by Gustav Pychowski, M.D.

Lawrence C. Kolb, M.D.

IN MEMORIAM

DANIEL J. McCARTHY, M.D.
1874-1958

Dr. McCarthy was born and educated in Philadelphia. Always a colorful teacher and physician, he represented the last of the early Philadelphia school of neurologists. Graduating from the University of Pennsylvania Medical School in 1895, he took his internship at the Philadelphia General Hospital (Old Blockley), followed by a year at the Orthopedic Hospital where he worked with Wier Mitchell, W. W. Keen, De Schweinitz and other leaders in the field of neurology. The following year he went to Europe and studied at Vienna, Leipzig, Berlin and Paris. There he learned the precision and the patient, steady, time-consuming requirements of the basic research of the Germans; and observed the brilliant, clear-thinking work of the French, especially in the field of psychology. This was a period of great stimulating scientific activity in medicine which he blended into his own personality and clinical work.

Returning to Philadelphia, he immediately set up his office for the practice of neuropsychiatry, spending his spare time in the Pepper Research Laboratory at the University. An advocate of the thorough and complete history, physical examination and laboratory studies, he soon developed an active practice. Finding the general hospital unsuited to the rest, relaxation and active treatment necessary for his nervous patients, he organized a special department for the treatment of nervous disorders at St. Agnes Hospital, and later he established Roseneath Farm Sanitarium for such cases, and eventually established Fairmount Farms Sanitarium for psychotic cases.

Dr. McCarthy served as Professor of medical jurisprudence at his alma mater and the Women's Medical College of Pennsylvania. He enjoyed teaching and his quick, brilliant, psychomotor nature drew increasing numbers to his lectures. "Each year in my lectures I discussed basic and practical questions, such as the futility and uselessness of religious prejudices and con-

troversies of all types. Whether one believes that the Koran was given personally to Mohammed by Allah, or that one's religious revelations were inscribed on gold plates and revealed to Joseph Smith—that religious belief is nurtured in the child from babyhood and is instilled in every cell of the body. It is useless and unkind to try to change religious beliefs, or ever to say anything derogatory relative to another's religion."

As chief on the neurological service much of his time was spent in the neurological wards of "Old Blockley" teaching interns and treating charity patients. For years he was active as consultant neurologist to Norristown State Hospital. Deeply concerned with the devastating effects of tuberculosis, and especially its importance in nervous and mental disease, he early entered into the campaign with Dr. Lawrence Flick at Phipp's Institute in the study, treatment and education of the public in the field of tuberculosis. He became one of the founders of the National Tuberculosis Association and was a delegate to the first International Congress for tuberculosis in Berlin. Later he was instrumental in bringing the third International Congress to the United States. When this work was well organized, he gave up tuberculosis work entirely to devote all of his time to neuropsychiatry, the work for which he was especially trained.

A lieutenant colonel in World War I, he went overseas in 1915 and was placed in charge of the neuropsychiatric department at the Institute, Neuilly, treating chiefly nervous tension "shell-shock" cases returned from the front lines. Following the principles of Wier Mitchell and the Philadelphia School, his work was highly successful. In 1916 he was appointed liaison officer with the French and English armies and sent to Germany to inspect German prison camps for the English. He was so successful in improving conditions there that he was decorated by the British Government.

In 1917 he was sent to Russia by Secretary of State Lansing to investigate conditions under the new revolutionary government. In 1918 he was appointed Commanding Officer of Base Hospital No. 115 at Vichy, France. Later he served as Judge Advocate of the General Court and after the war as member of the Advisory Council of the Veteran's Bureau. He was instrumental in the organization of the Red Cross work at this time of its early development.

Following military service he returned to his private practice and teaching in Philadelphia. He was a great stimulus to young physicians interested in the field of neurology and psychiatry. Doctors George Wilson, Fay, Winkelman, Keyes, William Long and many others prominent in this field received training and inspiration as associates in his office at 2025 Walnut Street. Dr. McCarthy was the author of numerous articles and several books. Much of his medical teaching and philosophy was put into book form, *Medical Treatment of Mental Disease*, written during his retirement. His treatment of nervous tension states (the neuroses) was masterly, a modification of Wier Mitchell's rest treatment plus his own knowledge and wide experience. His basic theory was "build up the muscles of the body and you will build up the circulation, nerve tone, mental and physical health." His reported recoveries in early schizophrenia were questioned by many but they would have been less skeptical if they had followed him through all the careful detailed handling of his cases—early diagnosis and hospitalization; the attention to infections and debilities of all kinds; the optimistic, hopeful psychotherapy used from the first contact and the vast amount of time spent with the patient daily; his careful selection of the right type of nurse, usually one he had trained himself; his military exactness in treatment and firm insistence on the patient's carrying out every detail of the carefully scheduled treatment program. While this was a heavy tax on both time and energy, he always felt it was well worth while in the results. He used insulin in nervous and mental cases to improve nutrition, years before it was used in shock therapy. Strong galvanic current was used with many patients, just short of shock

as a stimulant and psychologic lever to force willful neurotic patients back into normal channels. He was master of the clinical quip and truism with a psychological stimulating twist—"Replace the hot-house fat by muscle." "One must be an optimist; the world has no place for the pessimist." "One cannot expect to have a good heart muscle with soft, flabby body muscles, neglected for years." "Vigorous and regular exercise daily is more important than three square meals." "If your mind is on yourself 50 percent of the time you are 50 percent sick; if 100 percent of the time you are 100 percent sick—and the way to get your mind off of yourself is to concentrate on some work or occupation which takes all of your attention."

All through his medical career every opportunity was grasped to teach nursing groups, social and public health workers. For years he taught neurology and psychiatry in the nursing schools at Philadelphia General and St. Agnes Hospitals. In the early 1920's Dr. McCarthy organized, and led for some years the Mental Hygiene Committee of Pennsylvania, which has carried on an excellent program of education for prevention of mental diseases, and materially aided in the improvement of care of psychiatric patients in Pennsylvania. He gave the penal system considerable study and was a strong advocate of a good parole system with officers especially trained and with power over the parolee to help in every way possible and to return him to prison if necessary. At the request of President Judge Charles L. Brown, he reorganized the medical department of the Municipal Court of Philadelphia and served for six years as Director of Probation there where he organized an active and effective psychiatric division, continuing his interest in this work long after he retired. Dr. McCarthy throughout his career was interested in the problems of Pennsylvania's state mental hospitals advocating small wards in charge of a single psychiatrist who would treat his cases actively, primarily on a medical basis, looking forward to quick discharge with an effective follow-up to carry on treatment and supervision, thus avoiding the locked doors, the hopelessness and fear of the mental hospital

and the commonly resulting chronicity.

Dr. McCarthy was at one time President of the American Neurological Association and was consistently active in the Philadelphia Psychiatric and Neurological Societies. He founded the "Philadelphia Institute for Research in Nervous and Mental Diseases." This foundation continues to function and has given money to the University of Pennsylvania, Temple University, and Jefferson Medical College. He insisted on the importance of clearing up all infection in psychotic states as well as in disease processes generally. Recent laboratory studies show how sound these principles are. His teachings, in many ways, were far in advance of his time.

Retiring from active practice in 1935, Dr. McCarthy lived at his home "Hill Top" in Germantown and spent his winters in Florida. In Palm Beach he helped found St. Mary's Hospital, the Society of the Four

Arts, the Mental Health Association, and was active in prison psychiatric work. He served as Chancellor of the Year, at Florida Southern College, where he was given the degree of Doctor of Laws. He was a great believer in regular daily exercise, taking routine sun baths when possible, combined with self massage and vigorous walks daily of 2 or 3 miles. He enjoyed relatively good health to the last day of his life. Dr. McCarthy was always a source of great inspiration to his students, patients and friends calling forth from them deep affection and loyalty. Those who were closely associated miss him as a kind friend, a stimulating colleague, a skillful physician and an open-minded humanitarian of broad vision. Death took place suddenly in Ventnor, New Jersey, October 8, 1958, due to coronary heart disease.

Temple Fay, M.D.

Kenneth Corrin, M.D.

**Proposed Amendment of the Constitution and By-Laws
of the
American Psychiatric Association**

*Approved by Council for consideration of the Membership under provisions of the Constitution
and By-Laws*

THE CONSTITUTION

Article I. Name

This corporation, founded in 1844 as the Association of Medical Superintendents of American Institution for the Insane, known from 1892 to 1921 as the American Medico-Psychological Association, and since 1921 as the American Psychiatric Association, is hereby continued under the last designation.

Article II. Objects

The objects of this Association are: (a) to further the study of the nature, treatment, and prevention of mental disorders; (b) to promote the care of the mentally ill; (c) to further the interests, the maintenance, and the advancement of standards of all hospitals for mental disorders, of outpatient services, and of all other agencies concerned with the medical, social, and legal aspects of these disorders; (d) to advance psychiatric education and research; and (e) to make available psychiatric knowledge to other branches of medicine, to other sciences, and to the public welfare.

Article III. Members

1. There shall be these classes of members: Fellows, Life Fellows, General Members, Life Members, Associate Members, Distinguished Fellows, Honorary Fellows, Corresponding Fellows, Corresponding Members, and Inactive Members. District Branches may establish parallel categories of membership not inconsistent with this article.
2. At the time of initial application, all except Honorary, Distinguished, and Corresponding categories shall be residents of countries of the western hemisphere, north of South America; or residents of the Caribbean Islands; or residents of dependencies of any of these countries.
3. An applicant for Associate or General Membership, if never before affiliated with this Association, will apply through the District Branch (if such District Branch

has jurisdiction and has been approved for membership processing) in the manner prescribed by the By-Laws.

4. If applicants are ineligible under Section 3, the application will be sent to the Secretary of the American Psychiatric Association, who will relay it to the Membership Committee for processing as a "member-at-large" in the appropriate grade, in accordance with the By-Laws.
5. The Committee on Membership will consist of six members who shall be either Fellows or Life Fellows. Each year the President will indicate which member of this Committee will be Chairman.
6. Associate Members will be physicians who have had one year or more of full-time training or experience in psychiatry.
7. To become a General Member, the physician shall either: (a) have been an Associate Member for at least one year, and have had at least three years of training or experience in psychiatry; or (b) if he has never before been of the membership of this Association, he shall have had three years experience in the specialty, and shall be recommended by the appropriate District Branch for direct election to General Membership. No physician will become a General Member (whether by direct admission to the Association or by advancement from Associate status) unless he: (a) holds a valid, nonprovisional license to practice medicine in the jurisdiction where he is working; or (b) holds an academic or research appointment not requiring licensure; or (c) is a full-time employee or officer of State, County, or National Government.
8. Fellows shall be chosen from those who have been General Members for at least two years, who have specialized in psychiatry for at least seven years, and who have made significant contributions to the field of psychiatry. The appropriate District Branch will be notified of applications for advancement from General Members

- to Fellowship status, and consideration shall be given to the recommendations of the District Branch, if submitted.
9. Life Members shall be members who have had 30 years affiliation with the American Psychiatric Association, and who are not eligible for Life Fellowship. A Life Member has all the rights of a General Member.
 10. A Life Fellow is one who is a Fellow after 30 years of membership in this Association. A Life Fellow has all the rights of a Fellow.
 11. A Distinguished Fellow is a physician, not a member of this Association, or other scientist who has distinguished himself by contributions to psychiatry or related sciences, and who is so designated through the procedure described in the By-Laws. Physicians who had been designated Honorary Fellows will, at the time of the adoption of this Constitution, become Distinguished Fellows. A Distinguished Fellow will not be eligible to vote or hold office but will be invited to scientific assemblies of the Association and receive such publications as Council may determine.
 12. An Honorary Fellow is a person other than a physician who has rendered signal service in the promotion of mental health and psychiatry, and who is designated "Honorary Fellow" through the procedure described in the By-Laws. Other than physicians, those previously classed as Honorary Fellows of the American Psychiatric Association will continue in that category. Honorary Fellows are ineligible to vote or hold office, but will be invited to scientific assemblies and will receive such publications as the Council may determine.
 13. Any General Member or Fellow who, for ten years or more, has been in good standing, and who establishes inability to continue payment of dues as a consequence of hardship, illness, or retirement, may apply for inactive status. Such status will be granted in appropriate cases by the Council on recommendation of the Membership Committee. An Inactive Member will be entitled to register as a member at Annual Meetings, but will not pay dues, nor will he be eligible to vote or hold office. He will be entitled to the JOURNAL and such other publications as the Council may determine.
 14. A person professionally qualified to be a Fellow and who lives outside the jurisdictional area of this Association, as described in Section 2 of this Article, may be elected a Corresponding Fellow. A Fellow of this Association who moves permanently outside its jurisdiction may become a Corresponding Fellow or remain in previous status, at his option.
 15. A Corresponding Member is a former Life Member, General Member, or Associate Member who has moved permanently out of the jurisdictional area of this Association, as described in Section 2 of this Article, and who has applied for the status of Corresponding Member. Such a member, if he prefers, may continue in his membership status.

Article IV. Officers

1. The officers of the Association are a President, a President-Elect, two Vice-Presidents, a Secretary, and a Treasurer. These Officers and an appropriate number of Councillors will be elected annually by mail ballot in the manner prescribed by the By-Laws.
2. The Council shall include the above officers, the Speaker of the Assembly, and twelve Fellows, of whom the retiring President shall be one.
3. Past-Presidents after three years of full Council service will thereafter be members of Council with full floor privileges but without the right to vote.
4. The President-Elect will be installed as President during the Annual Meeting next following the Annual Meeting at which his selection as President-Elect was announced. If the position of the President-Elect becomes vacant during the term, the Council will select a Fellow to serve as President-Elect and he will be installed as President at the next Annual Meeting.
5. The President-Elect, the two Vice-Presidents, the Secretary, and the Treasurer will assume their responsibilities at the time of the installation of the President. Incoming Councillors will assume their responsibilities when their election is announced.
6. The President, the President-Elect, each Vice-President, the Secretary, and the Treasurer shall each hold office for one year; Councillors will serve for three years. The President, the Vice-Presidents, and the four retiring Councillors are ineligible for re-election to their respective offices before three years have elapsed from the date of their retirement from such office.
7. (a) If the position of President becomes vacant, the Council will select a Vice-

President to become President for the remainder of the term.

(b) If any other position becomes vacant, the Council will elect a Fellow of the Association to fill that office for the unexpired portion of the term.

Article V. Privileges

1. The right to vote by mail, or in person, is limited to Fellows, Life Fellows, General Members, and Life Members.
2. Anyone with the right to vote also has a right to nominate candidates and to propose amendments to the Constitution or By-Laws.
3. Only Fellows and Life Fellows may hold elected office or serve as Chairman of Committees, Boards, and Commissions.
4. Every Fellow, Life Fellow, General Member, Life Member, Associate Member, or Inactive Member shall be entitled to the JOURNAL and such other publications as the Council may determine. Every such person shall also be entitled to register and attend the Annual Meetings as a member.
5. Every Fellow, General Member, and Associate Member shall be liable for the payment of dues and assessments.
6. Life Fellows, Life Members, Distinguished Fellows, Honorary Fellows, Corresponding Fellows, Corresponding Members, and Inactive Members will be exempt from payment of dues. Any persons in these classifications who attend the Annual Meeting will be entitled to register there on the same terms as General Members.
7. Any one of the membership of this Association (Article III, Section 1) may be appointed to a Committee.

Article VI. The Council

1. The Council will consist of the persons named in Section 2 of Article IV.
2. A majority of the voting members of the Council will constitute a quorum thereof.
3. Annually, the Council will elect, from its own voting membership, a Moderator of the Council.
4. The Council will meet during the Annual Meeting of the Association, and at such other times as the President or the Moderator may determine. By petition, one third of its members may call a special meeting of the Council.
5. Each year, during the Annual Meeting, the Council will organize an Executive Committee. This Committee will consist of the President, the two Vice-Presidents, the

Secretary, the Treasurer, the President-Elect, the Speaker of the Assembly, and two Councillors especially selected.

6. In the intervals between Council meetings, its Executive Committee has the powers of Council. All actions of the Executive Committee will be submitted to the Council at its next meeting for information, ratification, or modification.
7. The Council exercises all powers of the Association, not otherwise assigned, save when the membership is assembled in general meeting. Powers of the Council include:
 - (a) Fixing the date and place of each Annual Meeting of the Association.
 - (b) Determining the dues and assessments for the various classes of membership.
 - (c) Adopting a budget. This is solely the responsibility of the Council, and the budget, once adopted, shall be reported to the membership, for their information, at a business session of the Annual Meeting.
 - (d) Controlling the funds of the Association and designating its depositories.
 - (e) Making expenditures from the funds of the Association in implementation of its goals and purposes.
 - (f) Administering special funds, grants, and awards.
 - (g) Creating committees.
 - (h) Reviewing applications for District Branch charters after appropriate action by the Assembly, and making or approving recommendations for redistricting of branches when this becomes advisable.
 - (i) Processing applications for transfers within membership grades.
 - (j) Hearing and disposing of appeals from applicants rejected for membership.
 - (k) Directing the President to admonish or reprimand a member, subject to, and in accordance with, the appropriate provisions of the By-Laws.
 - (l) Expelling a member, or suspending a member, for a period of not more than one year, subject to, and in accordance with, the appropriate provisions of the By-Laws.
 - (m) Considering proposed amendments to the Constitution and By-Laws.
 - (n) Publishing the AMERICAN JOURNAL OF PSYCHIATRY, and appointing its editor, Editorial Board (or Publication Committee), and its staff.
 - (o) Providing for other publications desirable for carrying out the aims of the Association.
 - (p) Appointing such staff personnel as it

finds necessary to carry out the purposes of the Association, including professional auditors; and the setting of salaries.

(q) Doing all other things necessary to carry out the purposes of the Association and not inconsistent with the By-Laws or with this Constitution.

Article VII. Committees

1. There shall be the following Constitutional Committees: an Ethics Committee, a Nominating Committee, a Committee on Constitution and By-Laws, a Program Committee, an Executive Committee, and a Board of Tellers.
2. There shall be such Standing Committees, Boards, and Commissions as the President, the Council, the Executive Committee, and membership may designate.
3. Ad Hoc Committees, when appointed, shall act through the next Annual Meeting.
4. Unless otherwise specified, committee members will be named by the President. Each year the President then in office will indicate who shall be chairman of each committee. Anyone in any voting class of membership may be appointed to a committee; but only a Fellow or Life Fellow may be named as Chairman of a Committee, Board, or Commission. Persons not members of the Association may be designated advisors or consultants to committees.
5. Unless such power is specifically granted by Council or by the membership of the Association, no Committee will speak in the name of, nor encumber funds of, this Association.

Article VIII. District Branches

1. District Branches will be created in the manner described in the By-Laws.
2. Each District Branch will elect a delegate. The delegates, in the aggregate, constitute the Assembly of District Branches. The Assembly is authorized to consider any matters pertinent to the welfare of the Association or to the implementation of its objects.
3. The Assembly will annually elect a Speaker-Elect and a Recorder. The Speaker-Elect, at the conclusion of his service in that position, will become Speaker of the Assembly and a voting member of the Council.

Article IX. Amendments

1. Proposals to amend this Constitution may originate either (a) by a petition signed by fifty or more Fellows, General Mem-

bers, or a combination thereof, or (b) by resolution of the Council.

2. (a) Proposals to amend the Constitution by petition of fifty or more Fellows and/or General Members shall be received by the Secretary at least 30 days before the Annual Meeting. Such proposals shall be submitted to the Council and placed on the agenda for reading at the Annual Meeting.
(b) If at any time prior to the first day of the Annual Meeting, the Council passes a resolution endorsing a proposed amendment, the text thereof shall be read at the next Annual Meeting.
3. After a proposed amendment (no matter how originated) is read at the Annual Meeting, the text thereof shall be published in the JOURNAL (or otherwise made known to the membership) not later than January 1. The proposed amendment will be submitted to the membership for mail ballot, at the time of and in the manner provided in the By-Laws in voting for candidates for office in the Association. All Fellows, Life Fellows, General Members, and Life Members shall be eligible to vote. If more than fifteen percent of the eligible voters return properly marked ballots, and if more than two thirds of such ballots are favorable to the proposed amendments, then the proposal shall be considered adopted and the Constitution amended accordingly.
4. Proposals to amend the By-Laws shall be received and acted upon in the same manner as proposals to amend the Constitution except that the favorable votes of a majority of eligible voters shall be sufficient to enact the amendment to the By-Laws, provided that not less than fifteen percent of the eligible votes shall have been cast in this mail ballot, and also provided that not less than ten percent of those voting are in favor of the proposed amendment.

THE BY-LAWS

Chapter One. Annual Meeting

1. A general meeting of the Association will be held annually at such times and places as the Council may direct. In times of war or other grave national emergency, the Annual Meeting may be waived, but elections will be held by mail ballot and Council or its Executive Committee will carry on the missions of the Association.
2. Prior to each Annual Meeting, the Council will develop an agenda indicating what will be done on each day. The new officers

will be installed on a day, time, and occasion selected by the incoming President.

3. The President (or, in his absence, a Vice-President) will preside at each business session of the Annual Meeting.
4. One hundred and fifty voting members will constitute a quorum.

Chapter Two. Disciplinary Actions

1. (a) Any Associate Member, General Member, or Fellow who, for three consecutive years, fails to pay dues required by Council will be notified by registered mail by the Treasurer of the Association that he will forfeit membership if arrearage is not paid by a specific date. If full payment has not been made by that date, the Treasurer of the Association will notify the Council. Unless, at its next meeting, the Council waives the arrearage or remits the dues, the delinquent member's name will be stricken from the rolls of the Association. Thereafter, he may return to the Association only by being processed as a new Associate Member or General Member, unless the Council orders reinstatement with or without waiving the arrearage.

(b) Any member of a District Branch (unless he be a Life Member or Life Fellow of this Association) who fails to pay District Branch dues for three consecutive years will be notified by the Treasurer of the Branch that this arrearage will, on a specified date, be reported to the Secretary of the American Psychiatric Association. If, by that date, full payment of District Branch dues has not been made, the Secretary of this Association will be so notified. The Secretary of the American Psychiatric Association will advise the delinquent member of the provisions of this section (Section 1. (b) Chapter Two of the By-Laws) by registered mail and, at the next meeting of the Council of the American Psychiatric Association, this delinquency will be reported to Council. Unless the Council directs otherwise, the delinquent member will be dismissed from both the Association and the District Branch. Thereafter, he may return to the Association only by being readmitted to the District Branch in accordance with its regulations.

(c) No Life Fellow or Life Member of this Association will forfeit membership in a District Branch for nonpayment of District Branch dues.

2. The Ethics Committee shall hear all complaints filed against a member. It shall

consist of six Fellows, at least one of whom shall be a Past-President of the Association. The terms of the members shall be adjusted so that each year two seats become vacant, and in each succeeding year the incoming President shall appoint members to fill the vacancies of the Committee. The President shall designate, from the membership of the Committee, a Chairman whose term shall be for one year. Vacancies developing during the term of any member of the Committee shall be filled by the President, who shall name an *ad interim* member or Chairman for the unexpired term of the previous member.

3. Any complaint concerning behavior, *specified in Section 4 of this Article*, shall be in writing and signed by the party making the complaint. Any person, including any member of this Association, may make such a complaint. It shall be filed with the Secretary who shall forward it to Council for action.
4. When the Council receives, through the Secretary, a complaint that a member has been engaged in unethical or unprofessional conduct, or has knowingly refused to comply with resolutions or requests of the Council, or has brought discredit or dishonor on the Association or on the practice of psychiatry, or has been convicted of a crime involving moral turpitude, the Council may (a) dismiss the complaint if less than two thirds of the voting members of the Council agree, or (b) refer the complaint to the Ethics Committee for consideration and recommendation on approval of two thirds of the Council.
5. If circumstances warrant, the Council, by two-thirds vote, may suspend any member of the Association, without prejudice, (for not more than ninety days) from any or all privileges of membership. Such action may be taken by the Council when it is considered to be in the best interests of the Association pending completion of the adjudicative procedures described below.
6. Upon receipt of a complaint from the Council, the Ethics Committee shall designate a Fellow of the Association to investigate the basis of the complaint and report his findings to the Ethics Committee. Any member under investigation is entitled to thirty days' notice in writing advising him of the nature of the charges against him and of the date set for hearing thereon.

A member so charged may appear before the Ethics Committee and be represented by counsel. If the member is unable to travel to the place set for the hearing, he may, upon written request, appear before one or more examiners designated by the Ethics Committee, who need not be members of the Committee. All examiners shall be Fellows of the Association. Testimony of the member shall be recorded and all copies must be signed by the member and examiner, certifying the accuracy of the transcript before submission to the Ethics Committee.

7. Upon receiving the report of the investigation, the Ethics Committee shall hold a formal meeting at which, in addition to personal appearance, the member charged may be represented by counsel who may submit a brief on his behalf for consideration by the Ethics Committee and Council. The Committee may (a) determine the complaint to be without merit and recommend to the Council that it be rejected; or (b) advise the Council that one or more of the charges in the complaint have been sustained and recommend that the member be admonished, reprimanded, suspended from membership for a specific period of time, or expelled from the Association.
8. The Council shall have authority to act upon the recommendations of the Ethics Committee. A majority vote of the Council shall be required to admonish, reprimand or suspend, but a two-thirds vote of the Council shall be required to expel a member from the Association. The Council may, by a two-thirds vote, impose a more severe penalty than that recommended by the Ethics Committee. The Secretary shall promptly notify in writing the member charged of the action taken. The Council's action, in any case, shall be by resolution and recorded in the minutes.
9. The records of the Ethics Committee and the minutes of the final action of the Council shall be filed with the permanent records of the Association and may be inspected by any member having a legitimate interest therein. Unless the member charged requests it, in writing, the name of such member shall not be included in the Council's open report to the membership read at the Annual Meeting of the Association, nor in the minutes published in the JOURNAL.
10. A member may appeal a disciplinary measure taken against him by the Council

to the membership by filing notice of such appeal with the Secretary within ten days of receipt of notification of the action of the Council. On receipt of such notice, imposition of the penalty shall be held in abeyance. However, if expulsion has been directed by Council, the member shall be suspended from all privileges of membership pending the outcome of his appeal. The matter shall be placed on the agenda of the next Annual Meeting where it shall be heard at a session attended only by voting members of the Association and the necessary secretarial staff selected by the President. The member shall be given an opportunity to be heard and to be represented by a person selected by him. The matter shall be discussed, the member excused, and a closed written ballot taken. If two thirds of those present vote to reverse the action taken by the Council, the complaint shall be rejected.

Chapter Three. District Branches

1. When a group of not less than twenty members (not more than 20 percent of whom may be Associate Members), residing in a contiguous geographic district, desires to create a District Branch, they will submit a petition, personally signed by the proposed charter members, to the Recorder of the Assembly of District Branches, together with a proposed Constitution and By-Laws of the Branch, requesting a specific geographical jurisdiction. The Assembly will consider the application and make report and recommendation to the Council. If the Council approves, the proposal will be submitted to the general membership of the American Psychiatric Association for disposition. If the proposal is approved by a majority of members voting, the District Branch will be created.
2. Requirements for membership in a District Branch will be the same as for membership in this Association. A District Branch may elect, as Affiliates, physicians practicing or residing in its area who are not eligible for membership in the Branch. Affiliates are not members and will be ineligible to vote or hold office in the Branch or the Association, and will not be tallied in computing the voting strength of the Branch in the Assembly.
3. Subsequent to the adoption of these By-Laws, every Associate Member and General Member of the American Psychiatric Association will belong to the District

Branch, if any, having jurisdiction over the area where he resides and/or practices. If a member transfers permanently to another area, the provisions of Chapter 6, Section 11, will apply. Voting members of the Association, not affiliated with District Branches at the time of adoption of these By-Laws, may, at their option, become members of an appropriate District Branch or remain "members-at-large" and so designated by Council.

4. A District Branch shall be approved for processing American Psychiatric Association membership applications (a) when its boundaries have been defined in its approved Constitution, and (b) after certification by its officers of its ability and willingness to serve in that capacity.
5. A District Branch's approval for processing membership applications may be rescinded (a) by request of a majority of members of that Branch attending a regular or special meeting thereof, or (b) by resolution of the Council, or (c) a recommendation of either the Membership Committee or the Assembly and concurrence of the Council.
6. If the creation of a new District Branch would require alteration in the jurisdictional area of an existing Branch, this fact should be communicated to the Recorder of the Assembly by the Secretary of the existing District Branch. If there is objection to the alteration by the membership of the existing District Branch, this shall be noted in the communication to the Assembly and representatives of both groups will be invited to discuss the matter when it is considered by the Assembly and the Council. The Assembly will make recommendations to the Council and the Council will make recommendations to the Membership of the American Psychiatric Association at the Annual Meeting. Disposition will be made by a majority vote of those present and voting.
7. Each District Branch will elect its own officers, arrange its own programs, and provide for its own expenses. District Branch officers will assume their duties at the close of business of the Annual Meeting of the American Psychiatric Association next following their election. They may be formally installed within thirty days prior to or subsequent to that date.
8. Each District Branch will select a delegate from its membership. These delegates, in the aggregate, will constitute the Assembly of District Branches. The Assembly will

meet at the place of the Annual Meeting of the American Psychiatric Association and during the period of that meeting. The Assembly may meet at such other times and places as the delegates of their Policy Committee may determine. The Assembly shall (a) consider matters referred to it by the Council and advise the Council thereon, and (b) present to the Council suggestions and recommendations on any other matters pertaining to the objectives of the Association.

9. The presiding officer of the Assembly shall be known as its Speaker. At each Annual Meeting the Assembly will elect a Recorder and a Speaker-Elect. The Speaker-Elect will become Speaker at the Annual Meeting next following election. If the position of Speaker becomes vacant, the Speaker-Elect will become Speaker for the unexpired portion of the term and for his own full term thereafter. If the position of Recorder becomes vacant, the Policy Committee will designate a member of the Assembly to fill the unexpired portion of the term as Recorder.
10. The Assembly is authorized to adopt and, in accordance with its rules, to amend a procedural code. Nothing therein will be inconsistent with the Constitution, By-Laws, or resolutions of the American Psychiatric Association or its Council.
11. The Assembly is authorized to create a Policy Committee to function on behalf of the Assembly in the interim between Assembly meetings.

Chapter Four. Voting by Mail

1. General Members, Life Members, Fellows, and Life Fellows (and only these) shall be eligible to vote by mail on candidates, proposed amendments, or referenda.
2. Any Fellow or Life Fellow, nominated for office by a petition signed by fifty or more General Members or Fellows, shall be considered an eligible candidate and his name shall be included on the official ballot for the next general election, provided that such petition has been filed at the Central Office of the Association prior to January 21st.
3. A Nominating Committee of five Fellows will be appointed by the President within sixty days after his installation into that office.
4. The Nominating Committee will announce the selection of a panel of candidates, at least one for each vacancy, not later than October 31st.

5. The Secretary will prepare an official ballot which will include the names of all candidates selected by the Nominating Committee or nominated by petition. The official ballot will be mailed to all eligible voters between February 1st and February 15th. The date on which ballots will be tallied shall be announced in a memorandum accompanying the ballot. This date will not be earlier than four weeks, nor later than two weeks, before the opening of the Annual Meeting. All properly sent ballots received prior to the time of tally shall be counted and the person who receives the greatest number of votes for each single office will be certified as elected thereto. The candidates who receive the greatest number of votes for office as Councillors will be certified as elected to the Council. Results of this election will be announced at the Annual Meeting.

6. Between February 1st and February 15th, the Secretary shall mail an official ballot to each voting member.

(a) To each voter shall be sent a package containing (1) the official ballot, (2) a letter or memorandum of instructions, (3) an inner envelope, and (4) an outer envelope.

(1) The official ballot shall contain the name of each candidate selected by the Nominating Committee, and of each candidate nominated by petition, together with a brief biographic account of the candidate. Candidates for the same office will be grouped together. By symbol, word, or phrase, it shall be indicated for each candidate whether he was nominated by petition or by the Nominating Committee. The country, state, district, or province of each candidate shall also be indicated. The ballots shall be identical, shall not be numbered, nor shall there be any provision for the signature of the voter. The final return date shall be indicated clearly near the top or near the bottom of the ballot.

(2) The memorandum of instruction shall furnish the key to any symbols or abbreviations in the ballot; shall clearly state the final return date of the ballot; and shall give instructions for folding, marking, and mailing.

(3) The inner envelope shall have printed on its face a serial number and a certificate which the voter will sign, indicating that he is the person to whom

the ballot was issued and that this is the only vote he is casting at this election.

(4) The outer envelope shall be large enough to accommodate the inner envelope. On the face of the outer envelope shall be printed or written the words "Board of Tellers" followed by the office where the ballots will be counted so that further addressing by the voter will not be necessary.

(b) Prior to the mailing of the ballots, the President shall designate a Board of Tellers consisting of members and employees of the American Psychiatric Association, at least one of whom shall be a Fellow of this Association, and at least one of whom shall not be a Member or Fellow of this Association. The President shall likewise designate one or two employees of this Association as custodians of the ballots. Record shall be kept of the serial number of the inner envelope mailed to each voter.

(c) As the outer return envelopes are received by mail, the custodian of the ballots shall open the outer envelope and compare the signature on the inner envelope and its serial number with the name and number in the record. If these are in accord, the custodian will deposit the unopened inner envelope in a safe place. If a discrepancy is found in the name or number, the inner envelope shall be referred to the Board of Tellers for a decision.

(d) On the day fixed for the counting, the custodian shall open each inner envelope and remove each folded ballot in the presence of a Teller, and place it, still folded, in a ballot box. The votes will be counted after all inner envelopes have been opened.

(e) The Chairman of the Tellers, or some person designated by the President, will announce the results of the election at the Annual Meeting.

7. VOTING ON AMENDMENTS TO THE CONSTITUTION AND BY-LAWS. After a proposed amendment to the Constitution or By-Laws has been circularized or published in the JOURNAL, pursuant to the Constitution, the Secretary shall prepare an official text of the proposed amendment to the Constitution or By-Laws, preceded by those sections of the Constitution or By-Laws that would thereby be amended. Under this text matter

there shall be printed the phrase "Are you in favor of this proposed Amendment?" and the words "Yes" and "No" on separate lines with space to indicate the voter's choice.

8. **VOTING ON REFERENDA.** Whenever the Council, the Assembly, or members in formal session at the Annual Meeting direct, by resolution, that a matter be referred to the membership by mail ballot, this shall be done in the manner as described in Section 7 above. The Council shall, by an enabling resolution, indicate the day of mailing and the return date on which the ballots shall be counted. There shall be a period of at least twenty-one days between these two dates. The wording of the resolution shall indicate whether the resolution is to be binding or advisory.
9. **EFFECTIVE DATES.** Amendments, new By-Laws, and referenda shall be effective on the date of the certification by the Board of Tellers unless a different effective date is indicated within the text of the proposal.
10. **CERTIFICATION.** After the tally of each mail poll, the Tellers shall prepare a written certificate indicating (a) number of ballots counted, (b) number of votes cast affirmatively and negatively for each candidate, (c) number of ballots disqualified and the reasons therefor, and (d) net results of the election. The full text of the certificate will be filed in the Secretary's office for inspection on request by any Member or Fellow. The net results of the poll, giving only the names of successful candidates and the text of successfully passed Amendments, will be announced at the Annual Meeting and published in the JOURNAL.

Chapter Five. Scientific Programs

1. Subject to ratification by Council, the Program Committee will have final authority to determine the acceptability, or conditions of acceptability, of scientific papers offered for the Annual Meeting.
2. The Program Committee will determine the date, time, and room for the presentation of each accepted paper.
3. The Program Committee will select a chairman and a recorder for each scientific session.

Chapter Six. Membership Processing

1. A person not previously affiliated with this Association, and living within the jurisdic-

tion of a Branch, will apply for membership through the appropriate District Branch. If he resides outside the area of a Branch approved for membership processing or is not eligible for membership in the District Branch having jurisdiction, he may submit an application for membership-at-large to the Secretary of the American Psychiatric Association.

2. If an applicant is elected a member of a District Branch, notification of his election will be forwarded to the Secretary at least thirty days prior to the Annual Meeting. Upon receipt of notification of election from the Secretary, the applicant shall become an Associate Member or General Member of the Association, provided that the Branch has been approved for membership processing. The list of members so elected by the District Branches during the preceding year shall be presented to the membership at the next Annual Meeting.
3. If an applicant is rejected for membership in the District Branch of jurisdiction, the applicant may, within ninety days of being notified, appeal the action of the District Branch by sending an application to the Secretary of the American Psychiatric Association with a request for election to membership-at-large. The Secretary will refer the application to the Membership Committee and advise the Council that such appeal has been received. This Committee will investigate the rejection and, at the applicant's request, grant him a personal hearing at a place designated by the Membership Committee. Representatives of the Branch will be invited to such a hearing. The Membership Committee will then submit a confidential report to the Council. The Council will (a) sustain the action of the District Branch, (b) submit the applicant's name to the membership of the Association for election as a member-at-large as provided by Section 4, below, or (c) in its appellate position, direct election to membership in the District Branch concerned. If action of the District Branch is sustained, the name will be withdrawn from further consideration without prejudice to the applicant's right to again apply for membership under Article III, Section 3, of the Constitution.
4. If an applicant lives outside the area of a District Branch approved for membership processing, or is not eligible for membership in the District Branch having

- jurisdiction, the application will be reviewed by the Membership Committee and forwarded to Council for action. Council shall then present the applicant to the membership of the Association for election in the appropriate grade at the next Annual Meeting. Members, so elected, will be designated members-at-large.
5. Promotions from Associate to General Member will be made by the Council in appropriate cases, after hearing the opinions of the District Branch having jurisdiction and the recommendation of the Membership Committee. The Council is authorized to establish more detailed criteria for such promotions for the guidance of the Membership Committee and District Branches. The Council's refusal to promote an Associate to General Membership will be without prejudice to the Associate's right to make subsequent application.
 6. Promotions from General Member to Fellow will be made by the Council after weighing the recommendations thereon of the Membership Committee and District Branch. The Council's failure to advance a Member to Fellowship will be without prejudice to the Member's right to make subsequent application. The Council is authorized to establish more detailed criteria for Fellowship for the guidance of the Membership Committee.
 7. Advancement to Life Membership or Life Fellowship will be upon the Secretary's certification that the Member or Fellow had been a member in good standing in the Association for thirty years, and further certification indicating present grade of membership or fellowship.
 8. Any member may nominate a person for Honorary or Distinguished Fellowship. The citation will show the person's services in the fields of psychiatry, mental health, or the social or behavioral sciences. Each citation will be surveyed by the Membership Committee who will report thereon to the Council. The Council will determine whether to confer Honorary or Distinguished Fellowship or whether to defer this recommendation. A deferred recommendation will not be renewed until two years or more have elapsed from the date of the earlier nominations.
 9. A General Member or Associate Member who permanently moves out of the jurisdictional area of the Association may, on application to the Secretary of the Association, be granted Corresponding Membership unless the Council directs otherwise. Such member may, however, retain his previous membership category if he so desires and continues to pay dues.
 10. Any psychiatrist living outside the jurisdictional area of this Association whose professional activities are of Fellowship caliber may apply for Corresponding Fellowship, or such an application in his behalf may be made by any Fellow or Life Fellow. This will be studied by the Membership Committee which will report thereon to the Council. The Council will take dispositive action on such applications.
 11. A member of a District Branch who moves permanently into the jurisdictional area of another District Branch will become a member of the District Branch into whose area he has moved; except that, if the governing body of that District Branch grants a waiver, he may, if he wishes, remain a member of his previous Branch. After adoption of these By-Laws, every Associate Member, General Member, and Fellow of this Association living in a District Branch area will be a member of the District Branch having jurisdiction, except: (a) under conditions stated above; (b) ineligible under Article III, Section 3; and (c) exempt by the Council as a member-at-large, as provided in Chapter 3, Section 3.

Chapter Seven. Affiliated Societies

1. When any psychiatric society of a geographic division or region within this Association's jurisdictional area shall desire to become an affiliated society, it will submit to the Council a copy of its Constitution and By-Laws and a list of its members. If the Council approves, the recommendation shall be submitted to the voting membership at an Annual Meeting. If the majority of those present and voting so determine, the society will thereupon be designated an Affiliate Society of the American Psychiatric Association, subject to the limitations of Section 3, below.
2. Any Society that has been designated an Affiliate of the American Psychiatric Association, prior to the promulgation of these By-Laws, will remain an Affiliate Society, subject to provisions of Section 3, below.

3. In every affiliated society, all members must be physicians ; at least 75 percent of the members must be psychiatrists ; and more than 50 percent of the Society must be members in good standing of the American Psychiatric Association.
4. No affiliated society will speak in the name of, nor encumber funds of, the American Psychiatric Association.
Lee G. Sewall, M.D.,
Chairman, Committee on
Constitution and By-Laws.

THE FUTURE OF PSYCHIATRY¹ THE REPORT OF THE JOINT COMMISSION ON MENTAL ILLNESS AND HEALTH

LEO H. BARTEMEIER, M.D.²

You may recall that the Joint Commission was established originally by 5 members of the American Psychiatric Association and 5 members of the Council on Mental Health of the American Medical Association. The A.M.A., contrary to my original promise to the Board of Trustees, did contribute to the financial support of the Commission. Since the publication of this final report, the A.M.A. has supported it in one of its publications and it is currently being studied by the staff of the A.M.A. and some of its Councils—and is being taken very seriously. The A.M.A.'s Council on Mental Health is planning a working conference this fall of 150 carefully selected people in preparation for a National Mental Health Congress to be held next year. This suggestion and recommendation came *not* from the Council, but from the officers of the A.M.A. So you can be certain individually and as a group that the American Medical Association is supporting this report of the Joint Commission.

I would not have you gain the impression that our work is completed with the publication of this Final Report. We confidently hope and expect that we can rely upon you as individuals in your local organizations to activate those recommendations with which you can agree.

I have been asked to speak about psychiatrists in private practice and the private mental hospitals in connection with this Final Report. The National Association of Private Psychiatric Hospitals now has 130 hospitals in its membership. As of January 1961 it became an autonomous organization, separate from the APA's Mental Hospital

Institute with which it met in previous years. It is growing in strength and its rapid development is due, I believe, to the direction of its Executive Secretary, Melvin Herman, and to the various Association committees which work so vigorously between the annual meetings. It is a forward-looking organization. I foresee the time, as our large mental hospitals become smaller in size, when private mental hospitals, by developing close relationships with public institutions, will provide a chain of mental health services for people in all walks of life. I am very optimistic about the private mental hospitals.

I am more concerned about individual psychiatrists in private practice and I hope you will keep these remarks in proper perspective. As a former president of the American Psychoanalytic Association, I am well aware of the many activities in which psychoanalysts in private practice already engage outside of their private offices and beyond the work that they undertake in connection with the training of candidates in the Psychoanalytic Institutes.

But, I want to emphasize that greater efforts should be made to induce more psychiatrists in private practice to devote more of their working hours to community clinic services, both as consultants and as therapists. The long-standing criticism against psychiatrists in private practice, that they are isolated from the rest of the community, must be accepted as valid. In a former time, psychiatrists gave voluntarily of their services to work in outpatient clinics of general hospitals, to child guidance clinics, to the mental health associations in their communities and to the social agencies. But, as time has gone on, there has been an increasing withdrawal from participation in such community services. I wonder how many of you in private practice realize the

¹ Panel discussion at the 117th annual Meeting of The American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

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wholesome influence you bring to bear each time you give of your time to the mental health services in your community. For better care of the mentally ill, this practice must be revived.

Many men in private practice are already doing many of these things. We need more of them. In the Baltimore Psychoanalytic Institute, for example, the members have been engaging in postgraduate training for members of the American College of Physicians. Seventeen members participated as teachers, and the Institute has been requested to conduct a second program in 1962. We have also held a training program for 75 pediatricians.

These are the logical ways in which psychiatrists can contribute to the development of social psychiatry in the practice of medicine. The great majority of the mentally ill in the community are treated not by us, but by the general practitioners of medicine, and by working closely with them, we can give more emphasis to the work of the Joint Commission. It can be done without too much drain on manpower. We begin to see more clearly that our work with patients involves also our work with families, that we as individuals are part of the communities in which we practice, and we have far more influence than we imagine, if we will involve ourselves in the activation of this Joint Report.

KENNETH E. APPEL³

It is difficult to visualize the appalling psychiatric picture of the country when the Joint Commission was conceived 8 years ago. There were 900,000 patients in our mental hospitals each year. There were not enough psychiatrists to tackle the problem. The shortage was estimated at 40%. Twenty-nine hospitals for the mentally ill, housing 37,000 patients, had no psychiatrists on the staff. Five other hospitals with 2,000 patients did not employ a full-time physician. The hospitals were 66% understaffed in nurses. Only two-fifths of 1% of 300,000 registered nurses in the country were engaged in practical nursing of patients in public mental hospitals. The overcrowding was appalling. More beds were thought to be needed immediately. It was estimated that the increased admission rate would require 100,000 additional beds in the next 10 years. This involved an increased expenditure of \$1,200,000,000. Only \$1 per year was spent per patient for research; \$900 was spent for research in poliomyelitis, per patient, per year; there was \$70 per patient for tuberculosis; and \$49 per patient for cancer. The situation seemed a national disgrace.

Reports came rolling in of an alarming nature from various members of our Associ-

ation: of the alarming, disgraceful plight, of the shamed, the disgraced, the unappealing, the forgotten, the mentally ill. And these reports came from Walter Baer about nurses; from Leo Bartemeier about doctors; from the Central Inspection Board, which said about 25% of our hospitals were approaching standards for temporary approval. In one city with 5 medical schools, less than \$30,000 was allotted to the departments of psychiatry. A national survey of health facilities of the nation, costing \$500,000, did not mention psychiatry. From Walter Barton and others came reports about the terrible limitations in modern treatment with regard to the mentally ill; and treatment could hardly be spoken of for the majority of 700,000 patients. It was mostly care and custody. It smacked of packing boxes, mass methods. Herding and regimentation were the rule. Individual psychotherapy, thought to be the keystone of modern psychiatric treatment, was absent except in the rarest instances. Acute intensive treatment, which seemed imperative for good results, was absent in the majority of hospitals. The situation seemed patchwork, hodgepodge, makeshift and of the horse and buggy age. A shudder went through the country when a half dozen men resigned as superintendents of important mental hospitals. They were frustrated by the state of affairs and lack of opportunities.

³ President, Joint Commission; Professor of Psychiatry and Chairman, School of Medicine, University of Pennsylvania.

Goals were limited and morale was low.

And so it seemed the time was ripe to try to mobilize an aroused public opinion first in psychiatry, then in the lay public, and then among the legislators. With the efforts of Walter Baer, Barton, Bartemeier, and Blain—the four B's, the "Four Horsemen"—and we should add two other B's, Braceland and Bill Menninger—organization of opinion and momentum was developed. Bill Menninger persuaded Max Hahn of the Field Foundation to give \$5,000 to start a codification of these difficulties and problems. Gerty and Carmichael of this city were important forces in organizing the movement. Smith Kline & French made an early contribution so that we could document the plight of the mentally ill. We approached the interest—both medical and humanitarian—of Senator Lister Hill, Congressman John Fogarty and the late Congressman Priest. And in this development, the fighting Irishman, Mike Gorman, and the moving blunt scholarship of Al Deutsch were most helpful, as well as our own Robert Robinson.

Thus we moved in to the development of a program for a national survey. And Senator Hill and Congressman Fogarty persuaded Congress to pass the Mental Health Act of 1955, which called for a national analysis and re-evaluation of the economic problems of mental illness, and of the resources, methods, practices currently utilized in the approach to the mental illness problem. They asked for realistic recommendations. Now that was a problem—to ask for realistic recommendations for this national problem.

The organizing committee, which consisted essentially of the men already mentioned, approached 36 national organizations, including, of course, the American Psychiatric Association and the American Medical Association. We developed, under Dr. Bartemeier's leadership, a program to tackle this problem. There were 36 national organizations. There were 45 members of the commission as a whole, who worked on this problem, and they selected a director. There were from time to time, I believe, 70 members on the staff and 200 consultants. Jack Ewalt was selected to direct this project. He obtained outstanding interdis-

iplinary men on the various commissions. There were 10 commissions to study different problems. And these 10 commissions got consultants to work on it. Brewster Smith represented social science; Nicholas Hobbs came as a distinguished psychologist; and our beloved Mo Kauffman, with his energy, sharpness and wit, kept the Committee on Studies rolling. Jack Ewalt had the job of harnessing the consultants, the various people who were involved—the *prima donnas*, the prejudiced, the conventional, the interdisciplinarians. It was like putting shoes on an octopus; and he succeeded well.

We were fortunate to gain help in the communications that have appeared in 7 volumes (and 3 or 4 more volumes are to appear) from the scientific writer, Greer Williams, who kept our sesquipedalian psychiatric terminology out of the 10 volumes. Charles Schlaifer of the National Association for Mental Health kept an eye on the budget.

It is obvious that there are many, many people who devoted hours of time to this project because they believed in it. A final report appeared in March of this year. There are names that, obviously, have been omitted. Jack Ewalt and Walter Barton will mention others that are important to be specified in this report.

The summary of the report is a new kind of document. It is not just a survey and cataloguing of discouraging, disturbing and distressing conditions we all know about. It is not a diatribe against the complacency of people in society. Neither is it filled with the wishful and unrealistic fantasies for melioristic magic. It contains a challenging and inspiring set of recommendations to be used and modified. These recommendations, of course, are not final, but they are supposed to be stimulating to future thinking and work of our associations and societies. It is not just a list of complaints. It contains positive, realistic, optimistic plans for action—an attack against mental illness. It represents a national approach to this problem. The isolated states cannot tackle this problem alone. It is too big and too comprehensive for individual states to tackle a problem of such magnitude. It contains positive, optimistic plans

for action, as I have said, and we use the word "attack" against mental illness. We think of constructive attack against this great problem that we have lived with and devoted our lives to. Blueprints proposed, for counteracting the great sapping of our resources represented by mental illness,

could revolutionize the public care of persons with mental illness. I believe this problem and efforts at its melioration and prevention to be of significance. This problem of human behavior is of the highest importance not only for psychiatrists and physicians but for society at large.

JACK R. EWALT, M.D.⁴

The Mental Health Study Act of 1955 directed the National Institute of Mental Health to employ some group to analyze and evaluate the needs and resources for treatment of the mentally ill people of America, and to make recommendations for a National Mental Health program. This report of the Joint Commission is to recommend a program that will approach adequacy in meeting the needs of the mentally ill, to develop a plan of action that will satisfy us that we are doing the best we can towards treatment of the mentally ill. In this report we have attempted to rise above the self-preservative functions of the different professions, social classes and economic philosophies represented among the members of the Commission and we have attempted to shoulder in a broad way the responsibility of citizens of a democratic nation that believes in the uniqueness, integrity and dignity of man.

This is not my report, nor that of any single person, but an attempt to reflect the information we could gather from our colleagues, consultants and staff from all about the nation. If you find the phraseology a bit caustic here and there, and characterized by a bluntness at times approaching cruelty, this is because the collective judgment of the members of the Commission was that the situation called for this approach rather than the more reserved textbookish style used in the first draft of the manuscript. The phraseology and excellent style of telling the story are those of Greer Williams, a science writer. The ideas belong to you all, but the staff and the Commission members must take responsibility for the selection of areas studied, findings reported and the recommendations selected. You will note we made no study of mental retarda-

tion because a study was undertaken by the American Association on Mental Deficiency at about the same time. The status of psychoanalytic education was also omitted because the American Psychoanalytic Association was conducting a study, under the direction of Bert Lewin, and this report has been published. Our failure to study delinquency, alcoholism, geriatrics, industrial programs, the laws, education for psychiatrists and allied professions as well as other areas needing study is due to the hard fact that we ran out of money before we ran out of projects. The areas selected for study came from a priority list established by the Commission and its consultants.

In reviewing the situation one can congratulate the public, the governments and the professions on the increased money spent for mental health research, increases in mental health personnel, and in the beneficial effects of the new treatments, but in fact the need for treatment of mental illness is still largely unmet. In response to public demands the Congress and the National Institutes of Health have moved mental health from the fourth or fifth position to second, just behind cancer, in the amount appropriated for research and training. State hospitals have in some instances been improved in some categories, but there is no hospital that is giving every patient all the care and treatment he needs. In spite of the publicity and the "bit push for mental health," the average percentage of general state revenues and of health expenditures going to the care of mental hospital patients has declined in the past 5 years. Phrased differently, in spite of the increase in the mental hospital budgets in most states, the expenditures for other activities of government increased more rapidly. Mental patients are not yet part of the "New Frontier." During the past 5 years

⁴ Professor of Psychiatry, Harvard Medical School, Boston, Mass.

there has been a net decrease in the average daily number of patients in state hospitals now totaling more than 27,000 for the nation, in spite of the fact that a larger number of patients are admitted each year. The new drugs and other treatment procedures have made it possible to care for more patients outside the hospital, so there has been no decrease in the mental illness problem—we have merely decided to treat more of them elsewhere, principally at home. Viewed in one way, we have made progress from where we were 10 years ago, but viewed from the unmet needs or the way we have to go, there is little cause for complacency or self-satisfaction.

The Joint Commission asked why the efforts to provide effective treatment for the mentally ill had not met public demands for service and lagged behind the attacks on other health problems. One major reason seems to be that mentally ill people are lacking in appeal. They tend to disturb other people, and when they do people generally treat them as disturbers and offenders, as if they were responsible for their behavior. Psychiatrists believe that people should feel sympathy for the mentally ill and do something about their plight. The public apparently does feel sorry for the mentally ill but, in the main, they do not feel as sorry for them as they feel relieved to have them out of the way when they disturb and offend people with their behavior. Thus, in spite of the repeated exposure of the shameful, dehumanizing condition of the care of many mentally ill persons in poorly staffed large hospitals, the public does not become sufficiently aroused to seek sweeping and effective humanitarian reform. When aroused by some exposé they usually pick a scapegoat in the person of a superintendent or a commissioner, occasionally even lambasting the legislature, but only for a brief period. Sometimes the public guilt is expiated by building some new hospitals, or hiring a few of the many new employees needed. At no time have the citizens seen fit to provide adequate physical and personnel resources to effectively treat all the persons that come for help.

In our survey of American people's view of what they were worried about, one in four persons interviewed stated he had at

times had a problem in which professional help with his mental problems would have been useful, but only one in seven actually sought help for his problem.

Our studies confirm the much publicized shortage of manpower, including the categories of psychiatrist, psychologist, social worker, psychiatric nurse and other helping personnel. The data reveal all too clearly that the shortage of manpower in these categories is part of the shortage of professional manpower in general. The nation is also short of teachers, lawyers, scientists, and engineers. A large portion of the nation's potential brain power is lost between high school and college. About one-tenth of our young people graduate from college; of those of outstanding intelligence only about one-third finish college and a still smaller percentage enter the professional and science graduate programs. Our study suggests that our society does not manifest much respect for the human mind, well or sick.

RECOMMENDATIONS

The recommendations are based on our belief that a sound research program and a sound program for services must be mounted on a long term basis. Quick creation of new services, hope for sudden breaks through in research are not realistic and such temporary bursts of enthusiasm have in the past served more to assuage the public guilt for neglect of patients than to provide sufficient services for the mentally ill.

A. For developing new knowledge. 1. A larger proportion of the funds for mental health research should be invested in basic research; 2. Long term research in mental health and mental illness should be added to the present programs for short term projects; 3. Increased emphasis should be placed on the support of unorthodox ideas in mental health research; 4. NIMH and other agencies should make new efforts to hold the young scientist in his career choice. This recommendation requires creation of a substantial number of full time research positions to be supported for 10 years or longer, and some life time appointments. The first step in implementing this recommendation was authorized by the 86th Con-

gress in 1960 ; 5. Research programs should be supported on an institutional basis in suitable educational and research institutions ; 6. The establishment of mental health research centers operating in collaboration with educational centers or independently. A start on this was authorized by the 86th Congress in 1960 ; 7. Some portion of mental health research money should be devoted to building up facilities and staff for research in states or regions where scientific institutions are not well developed ; 8. Diversification in subject of inquiry should be recognized as a guiding principle in the distribution of federal research projects, programs, and institutes.

B. For better use of present knowledge.

1. In the absence of more specific evidence of the causes of mental illness, psychiatry should adopt a liberal philosophy of what constitutes and who can do treatment within the framework of their hospitals, clinics, and other professional service agencies. The mental health professions should recognize (a) that certain kinds of medical, psychiatric and neurologic examinations and treatment must be carried out by or under the direction of a psychiatrist, neurologist or other physician specially trained for these procedures ; (b) that psychoanalysis and allied forms of deeply searching and probing depth therapy must be practised only by those with special training, experience and competence in handling these techniques without harm to the patient ; namely by physicians trained in psychotherapy or psychoanalysis, or by psychologists and other professional persons who lack a medical education but who have adequate training and demonstrated competence in the techniques of psychotherapy ; (c) that non-medical mental health workers, with aptitudes, sound training, practical experience and demonstrable competence be permitted to do general short term therapy by permissive, non-directive techniques of listening to patients' troubles and helping them resolve these troubles in individually socially useful ways. Such therapy combining some elements of psychiatric treatment, of client counseling, and of someone to tell one's troubles to can be carried out in a variety of settings by institution groups and by individuals, but in all cases should be

pursued under the auspices and supervision of recognized mental health agencies.

2. Recruitment and training : The mental health profession should launch a national manpower recruitment and training program, expanding on and extending the present efforts, to stimulate further the interest of American youth in mental health work as a career. In addition to formal professional training, incompletely trained persons should have the opportunity for short courses and on-the-job training to increase their competence in the work they are doing.

3. Service to mentally troubled persons : Persons who are emotionally disturbed should have skilled attention available to them near their home. The object of this service is to detect early signs and symptoms of mental illness and to give treatment appropriate to the condition.

4. Care of acutely disturbed mental patients : Immediate professional attention should be provided for persons at the onset of acutely disturbed, socially disruptive and sometimes personally catastrophic behavior. The few pilot programs for emergency psychiatric care should be expanded and extended as rapidly as personnel becomes available.

5. Intensive treatment of acutely ill mental patients : Mental illness is the core problem in the mental health movement and the extensive treatment of those with serious mental illness should have first call on fully trained members of the profession. There is a need for expanding the facilities for treatment of the mentally ill in community mental health clinics, general hospitals, and mental hospitals as rapidly as psychiatrists, clinical psychologists, psychiatric nurses, social workers, and other qualified therapists become available.

Community mental health clinics serving children and adults and operated as outpatient departments of general or mental hospitals as part of state or regional system for mental patient care, or as independent agencies, are a main line of defense in reducing the need for prolonged or repeated hospitalization of psychotic patients. Therefore a national mental health program should set as an objective at least one fully staffed, full time mental health clinic for

each 50,000 of the population.

No community general hospital should be regarded as rendering complete service unless it accepts mental patients for short term hospitalization and provides a psychiatric unit or psychiatric beds. Every community general hospital of 100 or more beds should make this provision. A hospital with such facilities should be regarded as an integral part of the total system of mental patient service in its region and should have appropriate support.

State mental hospitals of 1,000 beds or less, and suitably located for regional service, should be converted as rapidly as possible into intensive treatment centers for patients with major mental illness with a good prospect for improvement or recovery. All new state hospital construction should be devoted to smaller, intensive treatment centers.

Chronic disease hospitals: No further state hospitals of more than 1,000 beds should be built, and not one patient should be added to any mental hospital already housing 1,000 or more patients. It is recommended that all the existing state hospitals of more than 1,000 beds be gradually and progressively converted into centers for the long term care of chronic diseases, including mental illness. This conversion should be completed within the next 10 years. Special techniques available for the care of the chronically ill, the techniques of socialization, learning new work skills, group living, and other measures for rehabilitation or social improvement should be expanded and extended to more people including the aged who are sick and in need of care.

Aftercare and rehabilitation: These are essential parts of all service to mental patients and the methods for rehabilitation should be integrated into the hospital services. We recommend programs for day and night hospitals and the more flexible use of mental hospital facilities in the treatment of the acute and the chronic patients.

Public information on mental illness: A national mental health program should focus on the goals of disseminating information about mental illness so the public may arrive at an informed opinion as to its responsibility towards the mentally ill. Because mental illness tends to disturb and

repel people rather than evoke their sympathy, a national program against mental illness should direct its publicity on the aspects in which mental illness differs from physical illness. We further recommend that the American Psychiatric Association make special efforts to explore, understand and transmit to its members an accurate perception of the public image of the psychiatrist.

C. How to pay for better care. Expenditures for treatment of mental patients should be doubled within the next 5 years and tripled in the next 10. The state and federal governments should work toward a time when a share of the cost of treating mental patients will be borne by the federal government over and above the present and future program of federal grants for research and training. Three basic principles are behind these recommendations: 1. The federal government and the state and local government should share in the cost of the services to the mentally ill; 2. The total federal share should be arrived at in a series of graduated steps over a period of years, the share being determined each year, on the basis of state funds spent during the previous year; 3. The grant should be awarded according to criteria of merit and incentive, to be formulated by an expert advisory committee appointed by the NIMH. This committee would (a) recommend changes in the laws of the states to make professionally acceptable treatment a requirement in mental hospitalization; (b) bring about changes in the laws of the states to make voluntary admissions a preferred method and court commitment the exceptional method for placing patients in a hospital or treatment facility; (c) accept all persons requesting treatment irrespective of legal residence; (d) establish a state mental health agency with well defined powers and sufficient authority to assume overall responsibility for services to the mentally ill and to coordinate state and local mental health services; (e) make reasonable efforts to operate open mental hospitals and mental health centers; (f) establish programs for training mental health workers in mental hospitals and community clinics; (g) establish in selected hospitals and com-

munity programs research programs appropriate to the facilities; (h) encourage county, town and municipal tax participation in the public mental health services by means of matching funds from the federal government; (i) agree that no patients will be added to mental hospitals presently having 1,000 or more patients.

The program recommended involves

many drastic social changes, major changes in policy, and greatly increased costs in men and money. It is our belief that a program against mental illness must be scaled to the size of the problem, and that elimination of parts of the program will leave us in our present indefensible position of poorly treating hundreds of thousands of sick citizens.

WALTER E. BARTON, M.D.⁵

It is unfortunate that the study of New Perspectives of Mental Patient Care, the report of a Task Force of the Joint Commission, is not available at the time of the panel presentation. Pages 174-192 of the Final Report of the Commission entitled "Action for Mental Health" is based on that study. The dedicated men in America and abroad who have pioneered the development of many of the New Perspectives will agree with nearly all of the recommendations that concern the public mental hospital. Probably the most difficult problem to solve and one central to improvement is the manpower shortage in the mental hospital.

Psychiatrists and nurses have increased their number about 38% in the last decade, social workers slightly more and psychologists 66%. The gain in the number of nurses and psychiatrists and other professional workers is dependent upon many factors other than salary. In large part it is dependent upon the available manpower pool of college graduates. Medicine draws its workers from the same pool that must supply scientists and teachers. A way must be found to increase the number of young people graduating from college. The Joint Commission has suggested some ways to accomplish this objective. Mental hospitals should anticipate no significant increase in the scarce categories of mental workers in the years ahead. Actually the situation will become more acute as the population expands. Alternate ways of doing our job must be found.

Greater use must be made of non-medical mental health workers for selected tasks. Short term psychotherapy may be per-

formed by this group with training and supervision. The mental hospitals and psychiatric clinics introduced this pattern. The model is now widely followed.

Volunteers can also help solve some of the pressing problems of shortages. The American Psychiatric Association conducted a survey 8 years ago. At that time 80% of mental hospitals had volunteer programs. In recent years volunteer programs have experienced a tremendous growth.

In addition there is an obligation to make better use of the manpower resources that are at hand. This will include on-the-job staff development. Some hospitals have very poor material for training, making this development difficult. Efforts at training are being made but to be effective, better recruiting and greater effort is still required.

Making better use of resources includes the development of more community services for the earlier recognition of mental troubles. The emphasis is on emergency care and treatment. The problem of treating major mental illness cannot be solved with longer waiting lists in clinics, nor with the development of more services for the neurotic individual.

Major mental illness is the core problem and the unfinished business of psychiatry. State laws must be changed to reflect the demand that treatment be professionally acceptable in a mental hospital. Storage of the chronically ill is not an acceptable goal. Laws also must make provision for treatment without hospitalization. Commitment law changes are also necessary in some states with emphasis on voluntary admissions as the preferred method of entrance to the hospital. Flexibility in management is required to permit the use of a wide range of facilities for therapy. Revision of settle-

⁵ President, APA, 591 Morton St., Boston 24, Mass.

ment laws may be necessary in some states to bring the patients' need for treatment into primary focus.

Smaller state hospitals are recommended of less than 1,000 beds. This represents a compromise with the World Health Organization's recommended 350-bed limit. The APA defended 250 beds as the maximum size of the state hospital up until 1856. A group of hospital superintendents battled unsuccessfully to retain this size when New York planned to build three 600-bed institutions at Utica, Buffalo and Poughkeepsie. Following this the APA defended a 600-bed maximum until 1869.

Once again New York State cracked the barrier when it built the 1500-bed Willard State Hospital. Since that time the APA has held unsuccessfully to a ceiling of a recommended 1,500 beds. The Joint Commission would back up the maximum size a little bit of the way.

Scarce professional staff should be concentrated on the treatment of acute mental illness according to the commission's recommendation. It would also help those good prospects for recovery among the chronically ill. It is difficult to select the good prospect for recovery among the chronically ill; reliable selection criteria are yet to be established.

All new construction, under the action plan, would develop small hospitals. No new hospital of over 1,000 beds would be built. There is nothing immoral in size and very little proof that bigness in itself is undesirable. Great size, however, usually puts more distance between the patient and his doctor.

The admonition to add not a single new bed for a patient to any mental hospital that already has 1,000 beds is also made. When remodeling becomes necessary an opportunity is at hand to study the wisdom of relocating the facility in a population center.

Some of the criteria for matching federal funds with those of the state would include

those desirable program features that emphasize active treatment, voluntary stay and open hospital management.

Aftercare also would be stressed with day and night hospitals, outpatient clinics, work for patients, family care, nursing homes, social centers and halfway houses. Under the recommended plan local responsibility for the development of new facilities would be encouraged.

Rehabilitation may be carried out by other than the scarce mental health professionals. Those skilled in rehabilitation techniques could carry much of the burden. Psychiatrists may then serve as consultants, supervisors, and teachers rather than as the primary therapists. Also recommended is the development of mental health programs under a State Central Mental Health Authority. Greater progress toward coordination seems to follow centralization of responsibility.

The report stresses the advantages of spending 2% of the total appropriation for service in research. This would indeed be liberal by present standards. Costs of this and other programs would be distributed between the local, state and federal governments.

Mental hospitals under the plan would not be abandoned but be changed. Its early treatment arm would be moved to the center of the population areas it serves. For some this would constitute no real change. For example, the Arkansas State Hospital in Little Rock presently operates in a principal metropolitan area of that state. However, when replacing beds in the Arkansas institution 1,000 beds would be the recommended ceiling. New small acute hospitals could then be built in the other cities in Arkansas. Saskatchewan has used this plan for some time. The results are not spectacular but gratifying.

It is our belief that the recommendations of the Joint Commission are realistic and would result in improvement of the mental hospital.

BRAIN STIMULATION, EXPERIENCE, AND BEHAVIOR¹

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Previous studies of the effect of electrical stimulation of the brain (EBS) have occasionally led to neuropsychologic correlates (*e.g.*, the opposite effects of activation or destruction of specific "regions," "reward systems," "pleasure centers") which attempt to parcel the brain into arbitrary functional units. The present research was planned to reexamine the validity of such assumptions in the light of the contingent effects of previous experiences, brain lesions and drugs on the behavior induced by stimulation of various parts of the cerebrum.

EXPERIMENTAL METHODS

Subjects. Three male and one female monkeys, age 10 to 12 years and with limited brain lesions⁴ of 1-4-years duration (L1-4, Tables 1-5), were studied for 8 years and compared with 2 male and 2 female monkeys without lesions (N1-4), age 5 to 8 years. Two male

and 4 female cats without brain lesions (C1-6) were also observed for 1 to 5 years.

Apparatus.⁵ The apparatus consisted of a glass cage 36 x 25 x 20 in. with a floor of stainless steel bars through which mild (average 10 ma., 2 msec.) electric shocks could be administered as a deterrent to current behavior. Two levers adjacent to food reward boxes permitted the animal to differentiate between visual and auditory signals given by the operator; pressing the correct lever reactivated the auditory or visual stimulus and released a food reward from a rotating magazine. A timer and electric counters recorded response latencies and intertrial lever pressing activity.

EBS. Our objectives were to stimulate various parts of the cerebrum in unrestrained animals through implanted electrodes activated by modulated radio frequencies. A specially designed radio frequency transmitter and electrode receivers were therefore constructed as follows:

Transmitter. The oscillator coil of a 27.225-mc. crystal oscillator, Knight 30-watt transmitter, was modified to improve tuning over the citizen's wave length band. A 10,000-ohm variable resistor was added to the filtered portion of the amplifier plate to regulate output power. Tuning was manually operated and a multivibrator type keying circuit was used to vary frequency, duration of pulse and total time of stimulation. An RC (resistor-capacitor) time delay circuit was used to control the period of each pulse and the interval between pulses (ON between 0.2 msec. to 35.0 msec.; OFF between 0.15 msec. to 27.0 msec.). The total time of stimulation was determined by a relay whose contacts were in series with the key circuit and which were held closed by another RC circuit for periods that could be selected over a range of 0.7 to 13 seconds.

Receiver. A coil composed of nine turns of 0.012-inch diameter, varnish insulated, copper wire was formed into a circle 1½ inches in diameter. A 6-inch length of 0.013-inch diameter Nichrome wire was brazed to one end of a compact diode (type DH 2155). The other end of the diode was attached to one end of the receiving coil so that the Nichrome

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⁴ Operated with open field technic to produce bilateral lesions: L1, L2, and L3 on the lateral aspect of temporal cortex adjacent to the amygdalae and including parts of the superior and inferior gyri; L4, amygdalae, excluding parts of the medial aspects.

⁵ For a more detailed description of the discrimination apparatus, cf. Masserman and Pechtel, 1956.

wire had negative polarity. The free end of the receiving coil was projected 3 inches and was attached to a $1\frac{1}{4} \times \frac{1}{8} \times 0.010$ inch, stainless steel anode (type 302) screwed to the animal's skull. The coil was deformed slightly to make it conform closely to the shape of the head, and was encased in low melting point polyethylene. The cathode (Nichrome wire) was straightened and stiffened by stretching. A solution of Saran 220 in tetrahydrofuran was used to provide a tough, elastic insulation over the back of the anode, the cathode, and other wire leads external to the encapsulated coil. The tips of the unipolar cathodes were denuded and pointed diagonally to minimize tissue damage during insertion; in biopolar electrodes, the bare tips were separated by about $1/16$ inch of insulation. The arrangement of the diode and the coil provided a half-wave rectified current of the 27-megacycle carrier wave. When the assembled unit was embedded in the head of the test animal the half-waves reduced to a high-frequency ripple, and the stimulating waveform acquired a sharp rise and fall.

During bench tests, the unmounted electrode showed a maximum 10% variation in signal strength over the range of expected positions caused by movement of the animal's head. However, after the electrodes were embedded, the signal was affected by high field areas in the animal cage, particularly about the openings forming the food box.

In situ tests on the cats showed the average resistance of the electrode to be $900 \text{ ohms} \pm 10\%$, a peak current of $11 \mu\text{A}$ at maximum transmission of .01 volt, and a maximum 30% variation in signal strength during discrimination training. Increased operating efficiency is planned by changing to a lower RF carrier wave and transistorizing the timing circuit.

Sensory Differentiation. After a period of 4 to 6 weeks for adaptation to the laboratory and animal colony, each animal was trained 3 to 6 times weekly in the apparatus to press the left lever after a tone and right after a light signal, spaced about 50 to 75 seconds apart in an irregularly balanced order of 25 trials. Each proper response within 30 seconds was followed by a repetition of the tone or light, and a second later by a reward (banana for the monkey, horsemeat for the cat). Throughout the study each animal was observed as to its physical state, its range and variability in

spontaneous⁶ and learned adaptive behavior, and rated on 11 reliable scales and 3 check lists (Table 6); records were also kept of qualitative patterns not included in the rating scales.

Surgical Preparation. Unipolar electrodes (or bipolar in animals N4, C2, and C3) were stereotactically implanted in each animal under aseptic conditions and pentobarbital sodium anesthesia. The receiving coil was placed sub-fascially and stabilized with dental acrylic that adhered to stippling on the cranium; unipolar electrodes had the indifferent plate attached over the frontal sinus. After a post-operative rest of one or two weeks, the induced EBS was paced and measured as follows:

Continued squared-pulse stimulation (CSPS). In this application, the RF transmission was continued for a half hour or more to induce an average .01-volt D.C. squared-pulse change in potential at the site of the electrode (*in situ* measurement with Tektronix type 502 oscilloscope). This form of EBS was interrupted during alternate inter-signal intervals with 0.5 sec. stimulus trains at rates of 50, 100, 200, or 400 c.p.s., randomized over the sessions and given in balanced sequences of ascending and descending series of average peak currents of from $3.96 \mu\text{A}$ to $11 \mu\text{A}$.

EBS threshold. Since the relation of behavioral responses to varying wave frequency of the continuous EBS at threshold levels could not be ascertained because of individual variations in a limited and heterogeneous sample, 100 c.p.s. was chosen as the arbitrary test frequency. The animal was stimulated with 3.96, 4.01, 4.07, 4.18, and $4.29 \mu\text{A}$ between the tone or light signals during the daily discrimination trials 6 through 11; and the responses compared to those following supra-threshold stimulation with $7.83 \mu\text{A}$ during trials 16 through 21. The minimal currents for detectable response on at least 50% of the stimulations in 4 test sessions were selected for the intracranial self-stimulation tests, and values 0.5% lower were used in the EBS discrimination training.

Intracranial self-stimulation. When the animal pressed the lever between signals it received EBS programmed on a balanced random basis among animals between preferred and nonpreferred levers and also between

⁶ General muscular activity was quantified in a cage equipped with photoelectric counters (Masserman and Aarons, 1961).

levers that would or would not subsequently be used for the discriminative response to EBS signals.

EBS Discrimination Training. This consisted of 3 steps: (1) a 2-sec. EBS was paired during its last second with a 1-sec. tone or light signal during 4 to 8 daily sessions; every 3rd or 5th signal omitted the pre-food external stimulus to test for a transfer of learned responses of EBS; (2) a 1-sec. EBS replaced pre-food light or tone signals but the correct lever response still activated the light or tone signal on every trial; and (3) correct lever responses to EBS no longer activated external stimuli but were followed by a second EBS stimuli. After a level of performance comparable to that on the tone-light discrimination was reached, randomized frequencies of 50, 100, 200, 400, and 800 were presented in the EBS problem for 5 to 8 sessions to evaluate stimulus generalization. Tone vs. light and the EBS vs. tone (or light) problems were then given on alternate sessions until the animals were made experimentally neurotic as described below.

Experimental Neuroses. Adaptational conflicts were induced by subjecting the animal to mild electric shocks or unexpected jets of water at the time of food-taking. These experimental stresses were first administered only during the EBS discriminations, reserving the tone vs. light trials to regain the animal's responsiveness; however, after the aversive reactions had generalized to these also, the conflict was enhanced by the direct use of the deterrent stimuli. The number of traumata ranged from 3 to 30 and were given over a period of 3 to 6 weeks.

Drugs. The above observations were repeated while the animals were under the influence of methylphenidate HCl (Ritalin, 2 to 3 mgm./K) or methaminodiazepoxide (Librium, 1 to 4 mgm./K).

Anatomic Controls. The animals were perfused, the brains were fixed in formalin and 35 micra serial sections were stained with the Klüver method to determine electrode position and assess tissue changes. Recovered electrodes showed good signal reception and electrical continuity, with the exception of possible cathode leakage above the cranium in cat C6. The loci of EBS were thus confirmed⁷ as follows: L1* thalamic nucleus lateralis posterior; L2* lateral reticular forma-

tion at the midbrain level of the superior colliculus; L3* at aqueductus Sylvius near the third cranial nerve; L4, in thalamic nucleus lateralis posterior; C1, middle of caudal part of septal nuclei at level of the anterior commissure; C2, anterior hypothalamus at the dorsal caudal margin of the preoptic area; the electrode had blocked the interventricular foramen of Monro producing a hydrocephalus of the right hemisphere; C3, ventral part of the anterior hypothalamic area adjacent to the nucleus supraopticus; C4, at the junction between the dorsomedial and ventromedial nuclei of the hypothalamus; C5*, unlocated, but Horsley-Clarke coordinates same as C4; C6*, median forebrain bundle adjacent to anterior hypothalamic area; C7, median forebrain bundle lateral to the fornix at the level of the ventromedial hypothalamic nucleus. Electrode placements in monkeys that were not sacrificed because of their participation in other current studies presumably are as follows: N1, lateral reticular formation at the midbrain level of the superior colliculus; N2, N3, and N4, in the posterior hypothalamus.

RESULTS

Auditory-visual Discrimination

Monkey. While our intact animals apparently learned more rapidly (Table 1) they cannot be directly compared to those with brain lesions, because of age differences and changes in procedures to maximize each individual's adaptation to the training situation. L1, L2, and N4 initially failed to complete preliminary training; the first two learned the problem postoperatively, while N4 achieved criteria performance one year later. The scores for L3 and L4 are postconflict and postoperative retraining scores. However, the groups are considered equal in performance on this problem, since a Wald-Wolfowitz runs test yielded a $p < .05$ on the overtraining performance prior to the electrical brain stimulation of 7 animals with cerebral lesions and 8 control animals.

Cat. As with the monkey, comparisons of the initial learning are inappropriate. Nevertheless, individual overtraining performance in those with implanted electrodes ranged between averages from 95.0% to 99.0% correct, which compares favorably

⁷ Locations marked by an asterisk are based only on examination of gross tissue specimens; others were confirmed histologically.

TABLE 1
Learning and Retraining on the Auditory-Visual Discrimination in the Monkey

ANIMAL	NUMBER OF INCOMPLETE SESSIONS	COMPLETE SESSIONS TO CRITERIA *	COMPLETE OVERTRAINING SESSIONS	AVERAGE % CORRECT
CONTROL				
N1	9	18	8	98.0
N2	1	5	10	98.4
N3	10	3	3	92.0
N4	0	2	11	97.8
LESION **				
L1	2	41	14	95.7
L2	1	28	32	91.0
L3	0	32	5	84.0
L4	1	16	10	94.4

* Criteria for learning were arbitrarily set at 90% correct choice or better in 2 consecutive 25-trial sessions or an average of 85% correct or better in 10 successive sessions.

** Cf. text p. 1 site and duration.

with a range of averages from 87.5% to 96.4% of a control group of 8 cats.

Preliminary EBS Tests

Effects on Learned Discrimination. The performance of the monkeys on the auditory-visual discrimination tests during preliminary EBS testing is summarized in Table 2. An analysis of the error distributions on tone vs. light discrimination without EBS (Column 1, Table 2) and of overtraining accuracy showed that the normal and brain-injured animals performed about equally well (Fisher exact probability test, two-tailed, $p=.64$).

Continued squared-pulse stimulation. Accuracy of performance increased in 5 of the 6 monkeys tested when they received continuous EBS wherever the site of stimulation. Cat scores were similar to those of the monkey.

EBS Threshold Tests. Responses similar to those observed in continued squared-pulse EBS always followed termination of the 0.5-second test stimulus-train of 100 c.p.s. (Table 3). Threshold levels appear to be equal in range (3.96-4.18 μ A) among brain lesion and control monkeys and cats. However, some individual differences in threshold may well have been masked by vari-

TABLE 2
Performance on the Auditory-Visual Discrimination in the Monkey after Electrode Implantation :
Preliminary Testing
(Average Percent Correct Choice, 100 Trials)

ANIMAL	NO EBS	CONTINUED SQUARED-PULSE EBS *	EBS THRESHOLD TESTS	INTRACRANIAL SELF-STIMULATION
CONTROL				
N1	99.0	100.0	100.0	100.0
N2	99.0	100.0	100.0	100.0
N3	85.0	No	87.0	86.0
N4	98.0	Test	99.0	100.0
LESION				
L1	99.0	99.8	93.0	99.0
L2	99.0	98.9	100.0	96.0
L3	97.0	99.8	98.0	99.0
L4	97.0	99.6	95.0	93.0

* Each brain lesion animal received nineteen 25-trial sessions on this test. The obtained score is the overall average for performance under 50, 100, 200, and 400 c.p.s. test sessions.

TABLE 3
Overt Responses to EBS
Prior to Learned Discrimination

MONKEY	THRESHOLD * IN μ A	TYPICAL RESPONSE ** (2.77-5.43 μ A)	SUPRATHRESHOLD RESPONSES (5.48-10.15 μ A)
		CONTROL	
N1	(4.18)	S	A
N2	(3.96)	R	A, Y, R
N3	4.07	H, R, A, U	A, Y
N4	4.07	A	A, V, R, O
		LESION	
L1	3.96	A, U	H, A
L2	4.07	A, H, M	R, H, M, E, Y
L3	4.07	M	H, R, M, Y
L4	3.96	H, A	H, A, R, M
		CAT	
C1	4.07	O, L, R	E, G
C2	3.96	O, R	L, R, A, X
C3	3.96	H, O	O, R, G
C4	3.96	H, A, O	O, E, A, R
C5	4.18	O, H, R	O, H
C6	4.07	O, A, R	O, E, A, R

* Lowest level of stimulation at which responses were evident on at least 50% of the test stimulations. Values in parenthesis indicate irregular responses less than 50% of the time.

** A=alerting (ongoing activity ceases, animal looks about); E, exploration (sniffing and/or licking apparatus parts); G, grooming; H, head turning; L, looks at signal lamp; M, sudden movement of ears, eyebrows, or eyelids; O, body orientation to food-well vicinity; R, presses response lever; S, shakes head (cat), scratches head (monkey); U, urination; V, vocalization; X, ataxia; Y, yawn.

ations in signal strength during each animal's movements. The predominating responses in the monkey are contralateral and some ipsilateral head turning and general alerting; in the cat, orientation to the area of the food boxes and lever pressing. The major difference in responses for both monkey and cat between threshold and supra-threshold EBS was that of greater variety and specificity (e.g., yawning, vocalization) at the latter levels.

Intracranial Self-Stimulation. Differences in prior "spontaneous" lever-pressing preferences, and in the location of the electrode make grouping of self-stimulation data inappropriate. Nevertheless, since all the animals had equivalent sequential experiences in the discrimination problem and in the preliminary EBS tests, the data were amenable to analysis of variance for the individual animal. The results on the monkey data are shown in Table 4. Nine unique spontaneous lever pressing patterns are possible in the two lever situation (frequency for each lever can increase, de-

crease, or remain the same). Patterns of response were not correlated with species but were related to prior lever preferences. Each possible pattern was adopted by 1 to 3 animals, except that of a decrease of lever pressing that did not produce EBS, and the maintenance of frequency on the stimulation lever. The data do reveal significant trends of increases and decreases on either lever individually and in some instances on both levers together for the monkey only. Scores for animals that show significant overall trends were submitted to separate analysis to evaluate specific increases or decreases between the frequency patterns of EBS threshold tests (experimenter controlled) and self-stimulation tests (animal-controlled). Significant changes in response were restricted to the monkeys and the EBS lever. Pressing of the self-stimulation lever was significantly increased over the prior control period for 2 brain lesion monkeys, but decreased for 3 control animals. However, during the subsequent EBS conditioning each of these animals reversed its lever pressing, i.e.,

TABLE 4

Results of Statistical Analysis of Means of Non-food Rewarded Lever Responses in Training and Intracranial Self-Stimulation Tests in the Monkey: Probability Levels of Lever Response X Condition Interactions *

ANIMAL	CONDITIONS ** ANALYZED	TONE LEVER X CONDITION	EBS LEVER X CONDITION	BOTH LEVERS X CONDITION	CONDITIONS X BOTH LEVERS	4 VS. 5 † EBS LEVER
CONTROL						
N1	1-6	.05	.01	.01	N.S. ‡	.01
N2		.01	.01	N.S.		.05
N3		.01	.01	.01	N.S.	.05
N4		.01	N.S.	N.S.		
LESION						
L1	2,4,5,6	.01	.01	.01	N.S.	.01
L2		N.S.	.05	N.S.		
L3		N.S.	.01	N.S.		.01
L4		N.S.	N.S.	N.S.		

* All values are probability levels for two-tail tests.

** Individual analyses of variance for each animal were made over the following performance procedures: 1. Prior to electrode implantation, 2. Immediately after electrode implantation, 3. Continued squared-pulse EBS, 4. EBS threshold tests, 5. Intracranial self-stimulation, and 6. The first conditioning step in EBS-auditory discrimination training. Each condition score consisted of mean lever responses for 5 blocks of 5 one-minute signal intervals per session.

† Individual t tests were made for mean differences.

‡ N.S. = $p > .05$.

those that had increased frequency during self-stimulation now decreased it, and vice versa.

EBS Discrimination. A summary of learn-

ing to discriminate EBS signals from tone (or light) signals is presented in Table 5. Four brain lesion monkeys and 2 cats learned the EBS-tone discrimination with

TABLE 5

Training Summary: EBS-Auditory Discrimination in Monkey and Cat

DISCRIMINATIVE STIMULI RESPONSE-PRODUCED STIMULI		2 SEC. EBS + 1-1.5 SEC. LIGHT VS. TONE *			EBS VERSUS TONE	
		LIGHT VS. TONE			LIGHT *	EBS
ANIMAL	TOTAL PAIRINGS	EBS ONLY TEST TRIALS	TEST TRIALS TO CRITERIA **	% CORRECT NONTEST TRIALS	VERSUS TONE AVERAGE PERCENT CORRECT CHOICE	
CONTROL						
N1	38	10	Criteria	100.0	100.0	93.9
N2	38	10	Not	100.0	100.0	100.0
N3	78	22	Met	80.5	91.8	84.2
N4	38	10		98.0	93.8	95.2
LESION						
L1 †	75	21	13	98.5	94.0	Not Tested
L2	66	18	12	98.3	98.7	98.7
L3	48	12	0	98.4	98.0	99.2
L4	48	12	0	96.8	98.7	98.7
CAT						
C1	84	24	Criteria	96.4	92.0	91.0
C2	84	24	Not Met	89.3	87.3	91.0
C3	76	22	15	98.0	93.3	97.0
C4	37	11	1	98.0		96.0
C5	38	10	Criteria	92.0	Not	94.7
C6	38	10	Not Met	97.0	Tested	94.7

* The light signal overlapped the last second of EBS. Cats 5 and 6 were trained with EBS paired with a tone and subsequently discriminated EBS versus light cues.

** The arbitrary criteria for the EBS conditioned discrimination was set as a run of 7 to 11 correct choices or more within 7 to 28 test trials, combined $p < .04$.

† A skin infection over the electrode implantation was picked on by the animal and the electrode connection broken. Performance under drug and conflict conditions for L1 was continued on the original auditory-visual discrimination.

a conditioning technique (Pavlov's second-order conditioning) and maintained high accuracy when the light cue was removed from the lever and replaced by the EBS. Although they did not respond above chance level during the conditioning phase, monkeys N1 and N2 and cats C1 and C2 showed prompt and complete transfer to the EBS-tone discrimination. One monkey, N4, and 2 cats, C5 and C6, took 2, 1, and 7 sessions respectively to achieve the criterion of performance of the original tone-light discrimination; the remaining monkey, N3, performed for 6 sessions at an average of 84.2% correct choice that was not significantly different from his prestimulation tone-light performance (85.0%). Three cats (C1, 2, and 3) used in other studies for 4 months showed average retention scores for 4 sessions of 91%, 95%, and 93.7% correct, respectively. Stimulus equivalence tests carried out with cats C1 and C5 showed 100% transfer of the learned discrimination to squared-pulse signals at the training level intensities under continuous EBS. Prior to the introduction of traumatic stimuli 2 monkeys (N1, N2) and 3 cats (C1, C2 and C4) started training on an EBS intensity discrimination. The subthreshold current values were maintained on the learned lever and the average peak current employed in the suprathreshold tests were employed as a

signal for the opposite lever. Performance scores remained at chance levels for 3 to 6 sessions of training at which time the prior EBS-tone (or light) discrimination was reinstated to prevent contamination of succeeding EBS stimulus generalization tests. Four monkeys in whom threshold tests had elicited yawning continued to yawn intermittently during subsequent tone-light control sessions.

Adaptational Conflicts

General Behavior. All monkeys and cats, except control animals N1, N2, and C1 that were subjected only infrequently to the conflict inducing stimuli, exhibited generalized decreases in their specific adaptive behavior. Overall decrements were revealed in rating measurements of observed behavior. These effects are shown for the cat in Table 6. Relative impairments of particular forms of behavior are not analyzed on an inter-group basis, since presenting symptomatology varied with individual animals in accordance with the stability and organization of their characteristic adaptive patterns. Earlier reports give detailed descriptions of the specific but individualized behavioral deviations, several of which are mentioned under symptom amelioration(3, 4). An example of a general interaction is illustrated for gross body activity in Figure 1. Analysis of variance

FIGURE 1
Interaction Effect of Conflict and Laboratory Experience on Gross Body Activity of the Cat Immediately Prior to Discrimination Performance

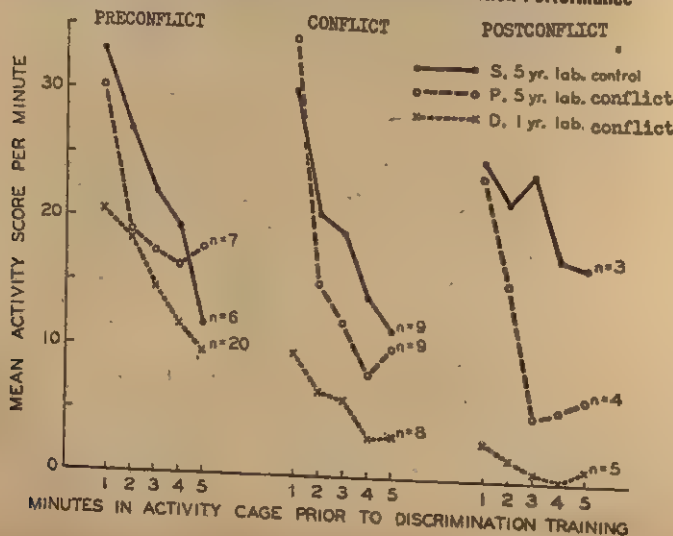


TABLE 6 Effects of Conflict on Behavior in the Cat
(Mean scores: Control, N=10, Experimental, N=5)

RATING SCALES *	BEHAVIOR ** OBSERVED	RATER CONSISTENCY †	3 MONTHS CONTROL	PRECONFLICT EXPERIMENTAL	3 WEEKS CONTROL	CONFLICT EXPERIMENTAL	1 WEEK CONTROL	POSTCONFLICT EXPERIMENTAL
Activity level (hypoactive-intensely vigorous)	gross body movements	.982	82.0	77.2	83.4	64.4	81.6	62.2
Freedom of action (apprehensive- unrestrained)	exploration, startle threshold, muscular tension	.668 p<.02	83.9	83.2	88.7	71.0	91.4	64.0
Performance motivation (unresponsive- industrious)	responsiveness to cues, distractibility, substitute behavior	.981	90.3	83.6	83.4	55.0	83.8	52.0
Equanimity in transport cage (restless-composed)	responsiveness to confinement, vocalization, clawing	.807 p<.02	70.6	63.2	65.2	64.6	68.2	67.0
Phobic responses to specific stimuli (stable inexcitability- agitated)	deviant responses to stimuli associated with training	H	15.2	14.8	15.2	14.8	15.2	32.2
Affiliation with experimenter (avoids contact- seeks contact)	evading E, rubbing or climbing on E	.959	87.6	83.4	85.9	78.2	86.1	80.8
Aggressiveness toward experimenter (gentle-combative)	tractability, vocal threats, attempts to claw or bite	H	16.5	16.4	17.0	16.2	16.6	15.4
Affiliation with other cats (isolate-social)	initiation and reciprocation of play, rubbing, grooming	.895	61.1	48.2	61.6	56.0	55.7	48.2
Aggressiveness towards other cats (peaceful-combative)	initiation of aggressive contacts, stalking and striking	H	26.7	16.0	20.4	16.6	20.7	17.0
Food acceptance in apparatus (refuses-consumes)	readiness to eat food rewards	H	92.2	92.6	91.4	79.0	92.1	88.0
Food box avoidance (evades-approaches readily)	orientations to food box in apparatus	H	91.0	91.2	92.1	81.4	91.6	83.2

* All scales are of a "graphic-parallel-vertical" format, adapted from Champney (1941), employing revised "behavior cues" of our highly reliable numerical scales.

** This listing is a limited sample of some of the observed behavior rated. All ratings were based on integrated impressions of frequency, intensity, duration, extent and configurations of the individual animal's adaptive behavior under each key variable.

† Listed coefficients of correlation are those of rho based on test-retest scores of the pretrauma time period. Rho coefficients of stability based on different rating periods of comparable confidence are highly similar; e.g., ratings of another well-trained rat on 14 monkeys for two 2-week periods yielded the following correlation on the first 4 scales: .945, .939, .964, .985, respectively. H, animals were too homogeneous with respect to the rated variable during the pretrauma time period. Since the restricted range produces spuriously low coefficients, these were not calculated.

for individual monkeys and cats yielded F ratios significant at better than the .01 level for the interaction of activity scores through time \times conditions (preconflict, conflict, and postconflict) and the .05 and .01 levels for an interaction of activity locations \times conditions. Trends of these interactions were nonuniform and in some instances opposite in both factors for the monkey but appeared as unidirectional decreases and restrictions in the cat.

EBS Stimulus Generalization. Definite selectivity of response as measured by percentage correct choice of one-signal trials appeared for 4 different EBS frequencies in both monkeys and cats. Despite a limited sample of animals, nonparametric analysis of accuracy and responsiveness of performance revealed the following: (1) prior to conflict the brain lesion monkeys performed better than the control monkeys (Walsh test, two-tail, $p=.062$), (2) subsequent to conflict brain injured monkeys did not differ in performance from controls (Walsh, one-tail, $p=0.125$), but exhibited significant decrement (Walsh, one-tail, $p=.031$) relative to their preconflict performance, (3) pre- and postconflict selectiveness of response to the differing frequencies was maintained within both monkey groups (Friedman two-way analysis of variance, $d.f.=4$, $p<.001$), (4) although differing in level of responsiveness, the combined scores of brain lesion and control monkeys pre- and postconflict yielded

significant patterns of response selectivity ($X^2r=63.24$ pre and 70.75 post, $p<.001$), (5) significant pre- and postconflict patterns of selective response in the cat are evident ($X^2r=33.2$, $d.f.=4$, $p<.001$), (6) postconflict performance is significantly inferior in the cat (Walsh, one-tail, $p=.031$), (7) postconflict overall performance of cats with one year of laboratory experience is significantly inferior to those with 5 years (Walsh, two-tail, $p=.062$) (Figures 2, 3).

Discrimination Performance. Efficiency in learning may be evaluated in terms of accuracy, latency, extra signals, or absence of response. Because individualized patterns of responding dependent upon each animal's prior experience led to unique response alterations, analysis of grouped data was limited to trials in which the animals responded (Table 7). After conflict all changes were in the direction of larger latencies, more signals required, and fewer responses in both types of problems.

The data on our monkeys indicated that (1) preconflict accuracy in performance depended on the signal configurations ($X^2r=7.4$, $.052<p<.054$), (2) postconflict accuracy was not thus dependent ($X^2r=3.4$, $.36<p<.39$), but (3) diminished by 37.9% (Walsh, one-tail, $p=.062$), (4) neither the overall increased accuracy of 16% for the EBS signal nor the 10% decrease for the light signal is determinative (Walsh, two-tail, $p=.125$), whereas (5) the 12% decrease for the tone signal is significant

FIGURE 2
Comparison of EBS Generalization Gradients of Control and Brain Lesion Monkeys Before and After Adaptational Conflict

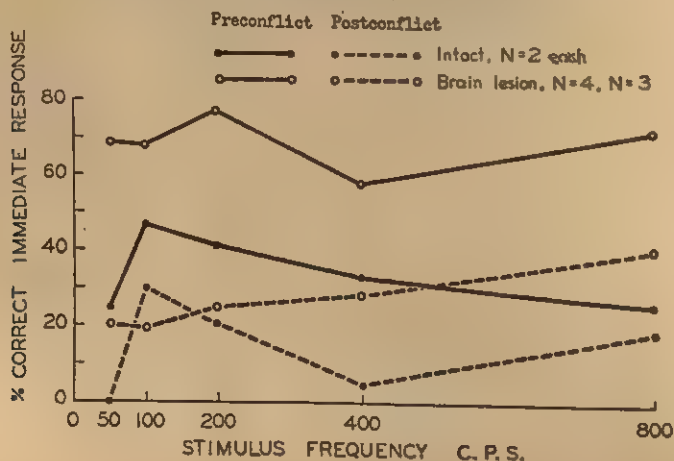
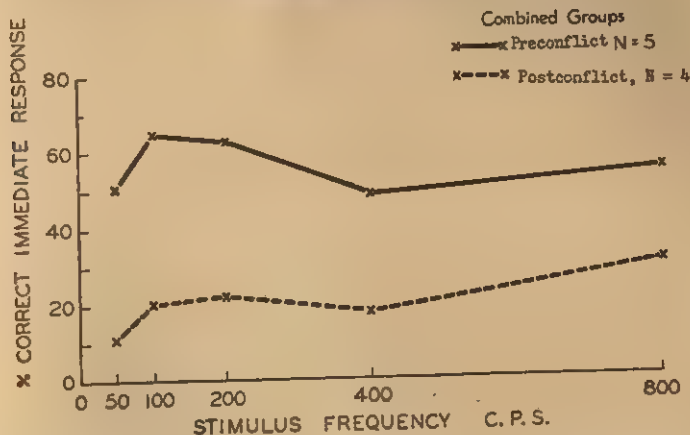


FIGURE 3

The Effects of Adaptational Conflict on EBS Stimulus Generalization for Combined Monkey Groups



(Walsh, one-tail, $p=.062$). Sample limitation precludes further analysis of differences between particular EBS frequencies.

Drug Effects

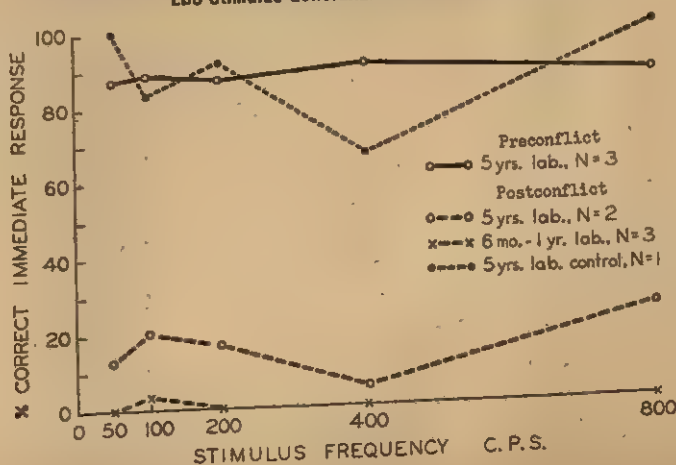
Discrimination Performance (Table 7). The only influences of Ritalin and Librium on performance were respectively to shorten and lengthen response latencies; however, these effects were not specific to different signals, but were related to each animal's particular mode of response. The averaged scores in Table 7 mask the fact that neither drug provided improvement in accuracy for any one specific animal. In fact, accuracy was 10.3% better during the

pre-drug sessions of the period of conflict than the combined averages on both problems subsequent to this control. Four cats tested for a control period of 6 months on Ritalin generally maintained their individual accuracy levels in a complex problem involving discrimination, alternation, and counting, but showed impaired performance coincident with increases of dosage.

General Activity. Separate analysis of variance for one control monkey on Ritalin and another on Librium for pre-drug, drug, and post-drug activity showed between-conditions variance for time, location, and time x location with Ritalin and for location

FIGURE 4

Interaction Effect of Adaptational Conflict and Laboratory Experience on EBS Stimulus Generalization of the Cat



with Librium significant at better than the .01 level. Main effects of total activity for conditions were significant for both animals at the .01 level. Activity trends were similar for brain lesion and control monkeys. Ritalin initially increased activity from 25% to 99% of pre-drug levels; however, when the drug was discontinued, activity either remained heightened or decreased from 14%

to 32%. An average decrease of 76% in activity was shown by the control monkey with Librium; however, the brain lesion monkeys that received Librium following Ritalin maintained or increased their activity levels. Although average activity levels were not correlated with drug dosage, general trends were usually indicated by major changes at the initiation of the

TABLE 7

Effects of Ritalin and Librium on Accuracy of Pre- and Postconflict Discrimination Performance in the Monkey
(25 trial sessions)

CONDITION **	N	SESSIONS	AVERAGE PERCENT CORRECT CHOICE *				COMBINED PROBLEMS
			TONE VS. LIGHT		TONE VS. EBS		
Postelectrode implant, pre-EBS testing, N. D.	6	4	95.0	94.6			89.4
Tone-EBS discrimination learned, N. D.	6	4			98.7	97.3	96.0
Ritalin 2 and 3 mg./kg.	5	4	97.6	100.0	100.0	94.5	92.1
N. D.	5	2	100.0	100.0	99.0	93.0	92.0
Librium 1, 2, and 4 mg./kg.	5	4	99.6	98.8	100.0	87.5	85.9
N. D.	5	2	99.2	98.4	99.0	93.0	89.6
Preconflict average			96.4	97.2	98.0	68.0	69.6
Conflict Period, N. D.							
Non-conflict sessions	6	9-13					79.9
Conflict sessions	6	3-9					66.7
Ritalin 2 and 3 mg./kg.	3	4	96.0	96.0	97.0	93.0	82.0
N. D.	3	2	94.7	98.7	100.0	98.0	91.4
Librium 1, 2, and 4 mg./kg.	3	4	96.7	94.0	99.0	96.0	85.7
N. D.	3	2	97.4	98.7	96.0	92.0	84.1
Postconflict average			84.8	87.4	92.0	79.0	43.2

* All average percent correct choice scores are computed from weighted percentages of individual animal's score corrected for trials on which the animal did not respond.

** Sequence of the experiment corresponds to order of conditions. Both drugs were administered in mashed banana 2-3 hours prior to testing. All animals were maintained on the dosage noted during the nontest days of any given period, and received plain mashed banana during nondrug steps. N. D., no drug given.

drug or an increased dosage.

Body Weight. The monkeys maintained or lost weight with Ritalin and uniformly showed gains on Librium while receiving the standard laboratory diet (Pechtel, Masserman & Aarons, 1961). The cats lost 12% to 35% of their body weight in 6 months on progressively increasing dosages from 2.5 to 20.0 mg./kg.

Side Effects. Minor disturbances of the digestive system (diarrhea and regurgitation) associated with the first few days of the administration of Ritalin or Librium were exhibited by all monkeys. A consistent effect of Librium in the monkey was the development of a generalized pruritus.

Social Behavior. Ritalin produced a minor increase in the frequency of interanimal contacts for both monkeys and cats. The playfulness of one cat became exaggerated and tended to merge into aggressive reactions; another male and female cat, although having been accessible to each other for two years, mated successfully for the first time. Behavior ratings showed no other changes in the animals' sociability and laboratory adaptations; the internal consistency of one rater was verified in weekly ratings over a 6-month period during which he was unaware that he was administering a placebo. Two male monkeys that had maintained their body's integrity during 7 years of laboratory life lost one and two fingers each during interanimal aggressions while under the influence of Librium. Indeed, in the preconflict control period for Librium, 2 tame monkeys each with 7 years of laboratory experience made aggressive threats at a familiar experimenter during accustomed transport procedures.

Symptom Amelioration. Low startle thresholds to familiar apparatus sounds and incidental laboratory noises, aversion to food boxes, motoric agitation in response to signals, increased stereotypies, changed activity levels, tics, unusual vocalizations, autonomic disturbances, and increased tension of musculature exhibited in individualized patterns by the animals following conflict were only transiently and minimally mitigated by either Ritalin or Librium.

SUMMARY

An apparatus was constructed for the

electrical stimulation of the brain by a modified radio frequency carrier wave to a receiving unit fastened subfascially over the cranium of 8 rhesus monkeys (4 with brain lesions) and 6 cats. The uni- or bipolar electrodes were stereotactically implanted in the median forebrain bundle or the septal, thalamic, hypothalamic or mesencephalic reticular areas. Animals with varied preceding experiences were subjected to conflict-inducing air blast or shock stimuli while discriminating external (tone, light) vs. internal (brain stimulation) cues, and developed adaptational conflicts characterized by the disruption of learned skills, persistent and generalized aversions, organic dysfunctions, loss of body weight and other deviations of conduct. All behavior patterns were evaluated on highly reliable rating scales. Our results were as follows:

1. "Threshold" stimulation of various regions of the brain did not interfere with previously established auditory-visual discriminations.

2. Intracranial self-stimulation (ICS) was variously ignored, avoided, or sought for prior to its establishment as a discriminative cue.

3. The response patterns to ICS were not significantly correlated with anatomical location or species (except that cats uniformly ignored it) but were influenced by prior preferences, and were reversible as the externally applied electrical brain stimulation (EBS) became differentially meaningful.

4. All animals readily learned to discriminate liminal EBS from a tone or light signal, but facility in this varied directly with the general adaptability of each animal.

5. Discrimination of brain stimulation was retained up to 4 months without practice and could be transferred immediately to the interruption of a continued squared-pulse stimulation.

6. Adaptational conflicts produced generalized "neurotic" behavioral deviations which included "conditioned anxiety" reactions to EBS, but these effects again varied with the length and adequacy of each animal's laboratory adaptation.

7. Stimulus generalization gradients for EBS frequency were similar in animals with different brain lesions, but varied greatly

with each animal's previous experiences.

8. Chemotherapy with Ritalin and Librium failed to mitigate behavioral deviations and showed no essential interactions with EBS.

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RELATIONS BETWEEN ENERGY TRANSFER SYSTEMS AND THE SYMPTOMS OF SCHIZOPHRENIA¹

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CHARLES E. FROHMAN, Ph.D., GARFIELD TOURNEY, M.D.,
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The relationship between psychological and biological aspects of schizophrenia has been an intriguing one for investigators over a number of years. The present report is one of a continuing series of studies of the pathophysiology of this illness, and attempts to answer some of the questions regarding the significance of such psychological and biological variables. The general hypothesis under investigation is as follows: a significant relationship exists between intracellular metabolic systems having to do with the production of biologic energy (intermediary carbohydrate metabolism) and the clinical phenomena of schizophrenia. Evidence in support of this hypothesis will be presented.

Ten acute schizophrenic patients, 10 chronic schizophrenic patients, and 10 non-schizophrenic control subjects were studied. All were male, aged 18-35, of normal intelligence, and without physical disease. They had a suitable diet, no drug intake, and no physical nor emotional exertion before biochemical studies (11, 12). They were studied both at rest and after the application of a controlled stressor, which was 10 units of regular insulin. Further details have been reported previously (10).

CLINICAL MEASURES

The selection of clinical variables was based on our judgment of those attributes which might be important in describing schizophrenia. There are a very large number of these which can be studied. On the basis of clinical experience of schizophrenia, 65 were selected which we felt might be related to pertinent aspects of intermediary carbohydrate metabolism.

Clinical measures were obtained from rating scales with scores ranging from 1 to

9 as described previously (1, 2). Three sample scales are shown in Tables 1, 2, and 3.

TABLE 1
Depression

1. No depression
- 2.
3. Depression largely subjective: e.g., some feelings of worthlessness, guilt, inferiority.
- 4.
5. Depression with objective manifestations: e.g., definite indecision, guilt reactions, occasional suicidal thoughts.
- 6.
7. Marked depression: i.e., characterized by loss of interest, some agitation and/or some retardation, etc.
- 8.
9. Depression of severe proportions causing complete disability; e.g., retardation, nihilistic preoccupation, or severe agitation.

TABLE 2
Thinking Disorder

1. Average thinking processes; i.e., no thinking disorder.
- 3.
5. Borderline illogical: or questionable thinking disorder.
- 7.
8. Clear and definite thinking disorder (paralogical, autistic, or paleological): definite abnormality demonstrated clearly during examination. This is defined as thinking in which many of the patient's concepts have no recognizable connection with each other, with the topic under discussion, or with external reality. Instead, concepts are connected in ways determined by inner thought processes. This may show itself as ideas that are haphazard, abrupt, incorrect, or bizarre.
9. Fragmented thinking: completely incomprehensible thought processes with many neologisms.
0. No information

All clinical scoring was completed by the psychiatrist before any biochemical results were available. Of the 65 clinical variables, 19 are measures of symptoms of the illness, 4 of the history, and 5 of the course. This

¹ Read at the 117th annual meeting of The American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

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TABLE 3
Poorness of 1-2 Year Followup Adjustment

1. Apparently recovered, except for one or two minor complaints. Marked improvement in social adjustment. No recurrence even under severe stress.
- 2.
3. Much improved: recovery from symptoms except for a few minor complaints and marked improvement in social adjustment. Under stress exacerbations of symptoms may occur.
- 4.
5. Improved: definite improvement in symptoms and in one or more areas of social adjustment, although some symptoms persist and the patient's total adjustment is still not as good as it was before the illness began.
- 6.
7. Unimproved
- 8.
9. Worse
0. No information

gives a total of 28 variables listed in the left-hand columns of Tables 4 and 5. The remaining 37 clinical variables, being reported elsewhere, are concerned with aspects of the premorbid personality and the rearing environment(3).

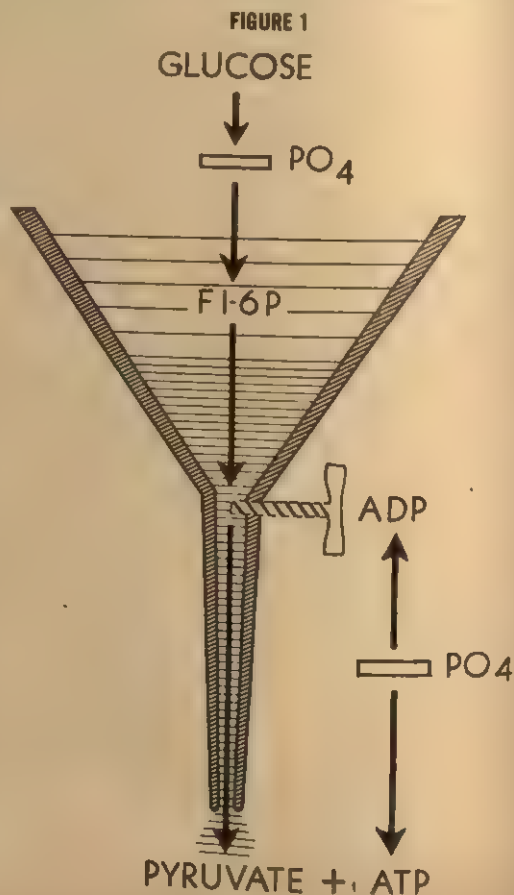
In the discussion reference will be made to the inter-rater reliability of the clinical scales. Understandably our studies have shown some scales to be more reliable than others. Details of these studies are now complete and a report is being prepared for publication.

BIOCHEMICAL VARIABLES

The area under investigation is that phase of carbohydrate metabolism in which glucose is broken down into a number of intermediate compounds and eventually to pyruvate. In the process the energy required by the cell is liberated. The biochemical measures used here were obtained by study of metabolism in human erythrocytes. It is recognized that these are simple cells. Subsequent studies of more complex cells which utilize the tricarboxylic acid cycle have led to biochemical results in essential agreement with the studies of simpler cells(7, 8).

It is important to stress that the method used was to measure not just the levels of the intermediate compounds but also their

rates of formation and breakdown. Many of the metabolic steps involve the attachment of a phosphate radical to a carbohydrate molecule, or its detachment from the molecule. The radical can be tagged with P^{32} and the rate of incorporation of the tagged radical into the compound measured. This measure is the specific activity, and is expressed in radioactive counts per minute per mg. of compound. The phosphate radical may be attached in a special manner known as the high energy phosphate bond. Adenosine triphosphate (ATP) is the most important substance possessing this bond. ATP has the property of holding the chemical energy in safekeeping until it is required by the cell. The energy held in the high energy bond is then rapidly released in a form the cell can use. Thus for example when a cell in muscle contracts or a neurone conducts an impulse, ATP releases high energy bonds. ATP then may be considered the product or output of the metabolic system, as represented at the bottom of Figure 1.



One of the more important of the intermediate substances formed is fructose-1,6-diphosphate (F1,6P). This is one of the earlier breakdown products of glucose; more of it accumulates within the cell than is immediately needed for the steps further down the metabolic chain. This available reservoir is schematized in Figure 1 as an accumulation within the funnel.

The key to this metabolic system is the control over the rate of energy output. In Figure 1 the output is shown as fluid flowing from the spout of the funnel. This output is controlled by a feedback mechanism, with adenosine diphosphate (ADP), the stopcock on the funnel in Figure 1, as one of the chief controlling substances. When the supply of ADP is limited, the ATP output of the system is limited. This would be represented in Figure 1 by closing the stopcock. If the cell has a sudden demand for energy, ATP releases high energy bonds and is thereby converted to ADP. This opens the stopcock, speeds up the output of ADP, and thus makes more energy available. When the cell no longer requires energy, ATP is no longer broken down, is no longer converted to ADP, and the stopcock closes.

Note that the output of the system is relatively independent of F1,6P. The availability of this compound within the funnel can fall by half or more and there will still be enough of it to maintain a normal ATP output. It is only when F1,6P falls very low that ATP production is adversely affected.

Thirty-nine measures were selected for study from this metabolic system; the selection of these measures has been described previously(1). It was found that 3 of them had many more significant relationships with the clinical symptoms than did the others. The titles in the tables are arranged so that high scores are in the direction of abnormality.

The first measure is failure of F1,6P specific activity to increase with insulin stress. F1,6P specific activity failed to increase with stress in the schizophrenic patients, but increased in the control subjects(10). Therefore a marked failure to increase is in the abnormal direction.

The next measure, amount of resting ATP specific activity, was high in the patients and low in the control subjects(10). Again,

therefore, a high score is associated with abnormality.

The third measure is the failure of ATP specific activity to increase with insulin stress. ATP, like F1,6P, did not increase with stress in the chronic schizophrenic group, but did increase in the control subjects(10). Thus again a high score is in the direction of abnormality.

METHOD

The relations between the clinical and biochemical variables were studied by computing Pearson product-moment correlation coefficients (r 's). Because of the labor involved in calculating the large matrices, a digital computer was used.

The correlations are presented in Tables 4 and 5. These tables are arranged so that in general a positive correlation coefficient indicates a direct association between biochemical and clinical abnormality. It will be noticed that practically all the r 's are positive; also, there is no reversal of this direct relationship, *i.e.*, the few negative correlations are all essentially zero. Those r 's significantly greater than zero at the 1% level of confidence are marked by a double asterisk and those significantly greater than zero at the 5% level are marked by a single asterisk.

RESULTS

In the discussion which follows contrasts will be drawn between correlations with F1,6P on the one hand, and the 2 ATP measures on the other hand.

Primary Symptoms of the Illness

The 2 most important of the primary symptoms of Bleuler are the thinking disorder and the affective disorder(4). The correlations of these 2 symptoms with F1,6P are shown in Table 4. Each was significantly related to the failure of F1,6P to change with stress. The greater this failure, the more intense is the thinking disorder and the greater the affective disturbance.

Another of Bleuler's primary symptoms is autism. An attempt was made to measure this by rating withdrawal, interpersonal difficulties, and social isolation on admission to hospital. Withdrawal and interpersonal difficulties were significantly related to F1,6P;

in each case the more marked the symptom, the greater was the failure of F1,6P to respond to stress. The other variable, social

isolation on admission, was less closely related to the biochemical measures. During the first week in hospital perhaps special

TABLE 4
Clinical Features

	F1,6P SP.ACT. FAILURE TO CHANGE WITH INSULIN STRESS	ATP SP.ACT. FAILURE TO CHANGE WITH INSULIN STRESS	PRESTRESS ATP SP.ACT. (HIGH- ABNORMAL)
Primary Symptoms			
1. Thinking disorder	+ .548**	+ .328	+ .331
2. Affective disturbance	+ .479**	+ .418*	+ .399*
3. Withdrawal	+ .488**	+ .382*	+ .227
4. Interpersonal difficulties	+ .471**	+ .358	+ .230
5. Social isolation on admission	+ .266	+ .264	+ .221
6. Occupational and social impairment	+ .601**	+ .352	+ .172
Secondary Symptoms			
7. Hallucinations	+ .246	+ .251	+ .282
8. Persecutory delusions	+ .181	+ .007	-.014
9. Catatonic symptoms	+ .198	+ .217	+ .226
10. Motor agitation	+ .167	+ .153	-.112
11. Somatic symptoms	+ .087	-.084	+ .093
Impulsive Symptoms			
12. Antisocial sexual behavior	+ .149	+ .496**	+ .796**
13. Antisocial aggressive behavior	+ .250	+ .474**	+ .645**
Anergic Symptoms			
14. Neurasthenic symptoms	+ .312	+ .370*	+ .310
15. Fatigue	+ .410*	+ .514**	+ .417*
Intellectual Deterioration			
16. Disturb. of orient. & memory	+ .191	+ .471**	+ .425*
Affective Symptoms			
17. Apathy	+ .129	+ .096	+ .303
18. Lack of hypomanic symptoms	+ .268	+ .253	+ .092
19. Depression	+ .261	+ .306	-.005

A correlation coefficient of .361 is significantly greater than zero at the 5% level of confidence, and .463 at the 1% level.

TABLE 5
History and Course of Illness

	F1,6P SP.ACT. FAILURE TO CHANGE WITH INSULIN STRESS	ATP SP.ACT. FAILURE TO CHANGE WITH INSULIN STRESS	PRESTRESS ATP SP.ACT. (HIGH- ABNORMAL)
History			
1. Total precipitating stress	+ .226	+ .238	+ .116
2. Duration of present illness	+ .285	+ .544**	+ .368*
3. Total symptoms prior to present illness	+ .161	+ .380*	+ .526**
4. Insidiousness of onset	+ .343	+ .387*	+ .308
Course			
5. Lack of improvement in socialization during hospital stay	+ .156	+ .101	+ .115
6. Degree of symptomatic improve. during hospital stay	+ .170	+ .027	-.144
7. Degree of characterologic improve. during hospital stay	+ .038	-.048	-.045
8. Poorness of final prognosis	+ .434*	+ .426*	+ .536**
9. Poorness of 1-2 year followup adjustment	+ .283	+ .582**	+ .376*

A correlation coefficient of .361 is significantly greater than zero at the 5% level of confidence, and .463 at the 1% level.

sociocultural forces may be determining the patient's behavior. During this time of social change the biologic forces may play a lesser role.

The variable occupational and social impairment is a rating prior to hospitalization. It reflects both autism and the abulia (lack of will) described by Bleuler as primary symptoms. From Table 4 it can be seen that there was a strong relationship between the degree of this impairment and the failure of F1,6P to respond to stress.

The correlations between the primary symptoms and the ATP measures were similar but less striking. Thus we may conclude that the primary symptoms, the most fundamental clinical dimensions of schizophrenia, have a significant relationship to a disturbance of intermediary carbohydrate metabolism. This disturbance is most clearly seen in the unresponsiveness of F1,6P to stress.

Secondary Symptoms

As outlined by Bleuler, the secondary symptoms include hallucinations, delusions (with persecutory as the most frequent type), catatonic symptoms, somatic symptoms, and impulsiveness. From Table 4 it can be seen that for the secondary symptoms measured (variables 7-11) there were no significant correlations with the biochemical measures.

This is quite different from the relationships of the primary symptoms. The secondary symptoms may be related to interpersonal experience at a psychodynamic or social level, as Bleuler has suggested (5), or possibly to other independent biologic systems.

Impulsive Symptoms.—Impulsive symptoms form an important exception to the above statements about secondary manifestations of the illness. The clinical variable, antisocial sexual behavior, reflects sudden uncontrolled outbursts of sexual impulses. These were often completely inappropriate sexually directed attacks on members of the family, neighbors, or other patients. Antisocial aggressive behavior is impulsive aggressive behavior which is not sexually oriented. These measures were strongly related to both ATP measures, but not to F1,6P. This is in sharp contrast to the

pattern of correlations for the primary symptoms.

Anergic Symptoms.—Two symptoms, neurasthenia and fatigue, can be considered as reflecting clinical "exhaustion," and it was of great interest that they were significantly related to the ATP measures. ATP supplies most of the energy to cells, and it seems reasonable that a deficiency in this supply might be related to clinical "exhaustion." A word of caution must be inserted concerning the reliability of these 2 scales. They are not nearly as reliable as most of the scales measuring the primary and secondary symptoms. This then remains an interesting but tentative finding needing further confirmation.

Intellectual Deterioration.—Bleuler devotes an entire section of his book to discussing the peculiar type of intellectual deterioration seen in schizophrenic patients. This is a difficult clinical feature to measure. Our attempt to do so used ratings of disturbance of orientation and memory as a rough clinical approximation. This variable was significantly related to both ATP measures, but not to F1,6P. From the biochemical point of view this symptom belongs in a group with the loss of impulse control, with the anergic symptoms, and with important aspects of the course of the disease, which will be discussed below.

Affective Symptoms.—Table 4 shows 3 affective symptoms, apathy, hypomania, and depression. None had any significant relationships with the biochemical measures.

History of the Present Illness

Table 5 shows 4 clinical variables related to the history of the illness. Two of these, duration of present illness and total symptoms prior to present illness, were significantly related to the ATP measures, although not to F1,6P. These 2 clinical variables are intended to supplement each other. It is very difficult to pinpoint the date of onset of a schizophrenic illness. For example, major symptoms may have started 18 months ago, but the patient may have had difficulties for many years. It was decided that rating both the duration of the illness and the intensity of previous symptoms would give the best available measure

of the chronicity of the process. The obtained correlations indicate that the more chronic the illness, the greater the disturbance in ATP metabolism.

The Course of the Illness

The course of the illness was measured by scales Nos. 5-9 in Table 5. The first 3 were ratings of change in behavior during the current hospitalization. None was related to biochemical measures. Poorness of prognosis was significantly related to all 3 biochemical measures, but especially to prestress ATP. The poorer the prognosis given by the psychiatrist, the more defective was the ATP metabolism. Finally, a followup interview was obtained 1-2 years after study for all but 2 of the 30 subjects. The adjustment at followup was found to be significantly related to both ATP measures. The greater the observed failure of ATP metabolism during hospitalization, the poorer was the adjustment 1-2 years later.

DISCUSSION

A proportion of schizophrenic patients ill for the first time experience a remission of their illness. It seems likely that the primary symptoms in these patients are related to a disturbance in the control of F1,6P metabolism. In Figure 1 a failure of F1,6P production is represented by a fall in the contents of the funnel. Even a considerable fall is compatible with normal ATP production. If ATP is being produced normally, many of the more basic energy producing mechanisms continue to function, and energy is available for various bodily processes. Since the patient's energy producing mechanisms are basically intact, there would be in such a case no fundamental biologic impediment to recovery.

In other patients the fall in F1,6P is more severe and there is interference with ATP production. Once these limitations in the production of ATP appear, there is an associated chronic illness with a poor prognosis. In explanation of this finding, it can be hypothesized that a disturbance in ATP production may lead to complex and perhaps irreversible biochemical effects. One possibility is that when ATP production is disturbed, insufficient energy is available to fulfill the synthetic functions involved in the

maintenance of enzyme systems(6). This poor maintenance would lead to a further loss of efficiency in ATP and energy production, and to a vicious circle.

Another possible result of a failure in ATP metabolism may involve a hypothetical schizophrenic factor in serum(7, 8, 9). This factor may be responsible for the disturbance in F1,6P metabolism. The serum factor may be either an abnormal substance or a normal substance present in abnormal amounts. In either case, it is probable that the body would try to detoxify it. This requires energy and the source of the energy is likely to be ATP. If the disturbance in F1,6P metabolism is mild or moderate, ATP is not affected, detoxification can proceed, and the illness goes into remission. But if the factor severely disturbs F1,6P, then ATP production is interfered with and hence so is detoxification. If this happens, again a situation is set up that can be thought of as a vicious circle. The factor interferes with the production of ATP, but the more limited the availability of ATP, the less effective is the destruction of the factor. Such a mechanism would lead to a deteriorating situation and to an illness with little likelihood for recovery.

SUMMARY

1. Intracellular energy producing metabolic systems were investigated in erythrocytes before and after insulin stress in 10 control, 10 acute schizophrenic, and 10 chronic schizophrenic male subjects.

2. Following complete clinical study 28 ratings of symptoms and course of illness were made for each subject.

3. Correlation coefficients (r 's) were computed between the biochemical and clinical variables.

4. It was found that the primary symptoms were directly related to the failure of mobilization after stress of the compound fructose-1,6-diphosphate.

5. In contrast, the secondary symptoms were not significantly related to biochemical variables.

6. Scores indicating a chronic illness and a poor outcome at followup were found to be directly related to another very important substance in this metabolic scheme.

This substance is adenosine triphosphate (ATP).

7. The possible significance of these findings is discussed in relation to a hypothetical serum factor in schizophrenia.

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DISCUSSION

BENJAMIN BOSHES, M.D. (Chicago, Ill.).—I am glad to have this opportunity to discuss the paper of Dr. Peter Beckett and his group. Having read earlier reports of Dr. Gottlieb, Dr. Beckett, and the others, I am perhaps in the position to be able to discuss all of this from a fairly broad point of view.

The first difficulty lies in the identification of what is schizophrenia. In attempting to learn something about this, I went back some 150 years. The first relatively clear description, I believe, was that of Pinel in 1809. Then followed the accounts of Esquirol, Griesinger, and Morel, who, in 1857, first used the words *démence précoce*. Next came the descriptions of Kahlbaum, Hecker, Falret, Magnan, Ziehen, and another landmark, Kraepelin, who put together the total picture which had been worked at in parts by his predecessors. Kraepelin outlined what he considered the cause, the symptoms, the course, and the outcome of the disease. His descriptions are quite remarkable, and many present-day psychiatrists who deny Kraepelin and his thinking would do well to read him carefully. Probably the next contribution in significance was that of Stransky in 1903 who spoke of "intrapyschic ataxia"; words that become quite pregnant in meaning when one reads some of Dr. Beckett and his co-workers' manuscripts. Meanwhile, Freud and Adolf Meyer were making contributions in the dynamic sphere, but the next large milestone came in 1911, when Bleuler introduced the term "schizophrenia" to replace *dementia praecox*. He also introduced the idea of latent schizophrenia and brought out the concept of autism. Bleulerian concepts are used in the present study.

I should now like to move back to 1884 for a quotation, which is very *apropos* to this symposium. These are the words of J. W. L. Thudichum from his "A Treatise on the Chemical Constitution of the Brain":

"Many forms of insanity are unquestionably the external manifestations of the effects upon the brain substance of poisons fermented within the body just as mental aberrations accompanying chronic alcoholic intoxications are the accumulative effect of a relatively simple poison fermented out of the body. These poisons we shall, I have no doubt, be able to isolate after we know the normal chemistry to its uttermost detail, and then will come in their turn the crowning discoveries to which our efforts must ultimately be directed, namely, the discoveries of the antidotes to the poisons and to the fermenting causes and processes which produce them."

I think we can say correctly that at this time we set with Thudichum, Kraepelin and Bleuler and we are as unresolved as ever. Certainly this is not because efforts have not been made, or because high intelligence has not been used, and certainly it is not because the best methods have not been employed. The

reason is that *dementia praecox*, or schizophrenia, is so vast a disturbance that it does not readily lend itself either to the simple or, to date, even complex investigations. Today, we speak of schizophrenia, yet in 1948, Leopold Bellak wrote a book in which he reviewed the past 10 years of research in this disorder, but he called it *dementia praecox*. Does this constitute a regression?

My preceptor in psychiatry was H. Douglas Singer, an Englishman, who, among his other achievements, was the editor of the Archives of Neurology and Psychiatry, and a most meticulous rhetorician, in the English sense. He loved the precise use of words and was ruthless in red-penciling, eliminating words which did not have a precise meaning in a sentence. Yet Dr. Singer spoke of *dementia praecox* and schizophrenia. The former, he called an organic disease which was progressively deteriorating. The latter, he called a reaction formation which had multiple origins, among them, clear-cut psychogenic disturbances. Schizophrenic reactions might be related to specific stress experiences, to certain psychodynamic factors which lent themselves well to psychotherapy. He thought that the prognosis here was different. *Dementia praecox* had a very grave outlook; schizophrenia frequently ended favorably.

It is interesting that Bellak takes the same position in 1948 as Dr. Singer, and there are many other supporters. In the middle 'thirties, Dr. Phyllis Wittman and others made a study of the patients at Elgin State Hospital based on their tendency toward spontaneous remission, and found that the so-called schizophrenic population was not homogeneous at all. It could be split into 2 groups: one that tended toward progressive deterioration, and another that tended toward remission. This was a statistical investigation and in many ways corroborated what Dr. Singer had said. In war or in special stress situations, like that of men on death row awaiting execution, acute psychotic states appear, which by their dissociation, loss of affect, mutism and withdrawal, show many of the clinical pictures in the broad category called schizophrenia. These syndromes have been labelled schizophrenic reactions, schizoid, pseudo-psychotic reactions, and at the International Psychiatric Conference at Zurich in 1957, the term "pseudoneurotic schizophrenia" was on many lips. It appears in the APA program for 1961. It was generally conceded that here was a schizophrenia that could be reached through psychotherapy and its course could be altered by drugs, remissions perhaps hastened by the

shock therapies. Certainly this was a more favorable form. In 1945 Drs. von Meduna and McCulloch separated the serious schizophrenias from the oneirophrenias or dream states on the basis of reaction to glucose. The Russians, I am told, added a factor of distance in the diagnosis of schizophrenia. During World War II an order was issued that the diagnosis of schizophrenia was interdicted within 15 miles of the front lines. Those of us working in the early phases of World War II, in North Africa and Italy, smiled tolerantly at this "Russian whimsy," and even occasionally joked about it. We have subsequently learned to eat our words. Now the U. S. military makes no psychiatric diagnosis in the forward areas. The soldier who breaks down is simply handled for his symptomatology, given relief, and generally sent back to duty. To close the circle of this description, I might add that some of our outstanding psychiatric institutions, including a number of our best training centers, make no attempt to apply a diagnostic term like "schizophrenia" or *dementia praecox* to the patient, but merely treat him for his dynamic symptomatology. They work with what is going on, not with the label.

I give you this *in extenso* because even if Dr. Beckett and his group were to come up with a fixed chemical discovery, or Dr. Seymour Kety and his team at NIMH were to do so, or Dr. Hoskins and his workers at the Neuroendocrine Institute at Worcester, Massachusetts, a generation ago, had confirmed a finding, with what would this be correlated? Certainly, we have no fixed pole star on which to set our sights and hence our correlations.

There have been many physiologic studies in this disease: blood circulation, blood constituents, carbohydrate metabolism, the detoxification processes, cerebrospinal fluid studies, endocrine glands, general metabolism, electroencephalography, respiratory and urinary studies, even experimental work—catatonia by DeJong, and the more recent work with taraxacin by Dr. Heath and his group in New Orleans. We must not forget that even in the pre-Thudichum era, there was the concept of mental illness due to a disturbance of humors. More recently, we have the Ackerfeldt experiments, serum copper and ceruloplasmin, and now the work of the Lafayette Clinic group on the role of carbohydrate metabolism in energetics.

It has been the consensus that it is hard to accept a generalized or specific defect in energy metabolism that is productive of so specialized a disturbance as schizophrenia, and certainly, careful and mature investigators like

Dr. Beckett and his co-workers have long since been aware of everything that I am saying. In a preliminary report, "Energy Transfer Systems and the Clinical Manifestations of Schizophrenia," presented in 1959 at a divisional meeting of the APA in Detroit, Dr. Beckett and his group tried to interpret the disturbances in ATP, ADP, F1,6P, lactate level, pyruvate level, and lactate/pyruvate ratios. In the instance of the phosphates, they used both level and specific activity. They correlated their data with some 67 clinical variables. The Lafayette group utilized an IBM 650 computer, to see if there was any correlation between alterations in these evaluations and the symptom clusters in acute and chronic schizophrenic patients. It was their opinion then that the patient with an acute schizophrenic process mobilizes energy in a haphazard, erratic fashion and, most importantly, fails in the production of a key substance like fructose-1,6-diphosphate, and is poor in the formation of ATP in the emergency circuit where 2 ADP units produce one each ATP and an AMP. They found that ATP was high in the chronic schizophrenic prior to stress. Apparently they thought that here was an energy system that was utilized poorly, and controlled more of a churning than an effective biologic energy which tended to gather up and explode. This kind of energy correlated statistically with sudden hostile assaults.

The discussant of that day was Dr. John Nurnberger, Professor of Psychiatry, University of Indiana, who, in addition to his clinical ability, is a skilled cytochemist. He admired the experimental model and the care in the design, but he decried one phase of the experiment. He made no criticism of the technique, since this was the only method available, but he cast sharp limitations on any interpretation because the experiments were carried out on the human red cell. Dr. Nurnberger noted that this erythrocyte was a poor cell for stress measurements since its metabolic processes were few. For example, it lacks a nucleus, and from the standpoint of cellular activity, it is essentially a moribund structure. It lacks mitochondria and a variably granulated cellular reticulum. In short, the red cell bears few of the significant structural analogies to the kind of somatic cell we should like to measure when we are trying to obtain an index of stress.

Dr. Beckett, in answering Dr. Nurnberger, pointed out that his group recognized the limitation and had done some further unpublished studies using nucleated cells. Later some of this work appeared in the Archives of General Psychiatry. Nucleated chicken cells and rat

diaphragms were used. It is obvious, therefore, that these investigators were working up to the limits of available techniques. In this present paper Dr. Beckett has described further studies using F1,6P and ATP as measuring sticks. My biochemist at Northwestern University Medical School was unhappy that F1,6P was used as the measure. To quote him, "The kinetics of the reaction would shift in the direction of F1,6P." We will leave this for the chemists to fight out. I know that the earlier work of the Lafayette group indicated the sensitivity of F1,6P, as a measure of energy transport systems in schizophrenia.

However, I find myself disturbed by the direct language of the conclusions, e.g., "That primary symptoms were directly related to the failure of mobilization, after stress, of the compound F1,6P, while secondary symptoms were not." Also that a poor outcome at followup, and chronic illness were related to ATP specific activities. All of this adds up to the possible presence of a serum factor in schizophrenia.

This points up the difficulty of biometry in psychiatry. Correlation of subjectively quantified data like "fragmented thinking," "affective disturbances," "interpersonal difficulties," with specific activity of ATP or F1,6P becomes a statistician's nightmare.

Let us assume that a deficit in energy transfer metabolism has been established for a certain behavioral syndrome which we all understand as schizophrenia. We must see whether this chemical disturbance is the cause, the concomitant, or the resultant of the behavior. Let us assume for the sake of discussion that we agree that this is a causative factor. The alteration in metabolism produces a disruption in synaptic transmission so that neural function becomes disorganized and we see what perhaps Stransky had described as an "intrapsychic ataxia," blocking, short-circuiting of thinking, and the like. Will every person who has this neural traffic jam develop schizophrenia? Is the sum of the symptoms we have discussed always schizophrenia?

I think all of the foregoing points up one thing, the tremendous problem that is schizophrenia. There is a long, hard task ahead of everyone in psychiatry and its ancillary disciplines. We have no choice but to work on it from every angle; and Dr. Beckett and the Lafayette group are to be lauded for the utilization of chemical techniques that are solid. They should be commended for their attention to experimental design and control, and for the continued consideration of the broad parameters which perforce must be included in any thinking about schizophrenia.

SOME RELATIONSHIPS BETWEEN SOCIAL CLASS AND THE PRACTICE OF DYNAMIC PSYCHOTHERAPY¹

NYLA J. COLE, M.D., C. H. HARDIN BRANCH, M.D.,
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From both a practical and a theoretical point of view, the psychiatric literature has, in the past few years, been increasingly concerned with the practice of dynamic psychotherapy in outpatient clinics. This concern has been sparked by several considerations. In the first place, from an economic standpoint psychotherapy as now practiced will permit only limited care of a selected number of applicants. Roughly calculated, the number of therapists needed to follow our present orientation is estimated at around 40,000 and it is not expected that we could provide anywhere near this figure in the near future. In the second place, as a professional group, we seem to share the rather pleasant delusion that those who support the mental hygiene clinic movement should eventually find the finances to provide enough therapists to meet the current demands. This is despite the fact that we have no sure evidence that the results from psychotherapy are better than other modes of treatment, or possibly no treatment at all. This becomes even more disconcerting when we consider that evidence is beginning to accumulate that present methods of clinic treatment may be suitable for only a limited group of people within our society. There are indications that our practice of psychotherapy is biased in favor of the so-called upper classes of our culture, and that our prized patients are those who share the same values and traits that we as a professional group cherish.

The authors have been particularly interested in this problem, *i.e.*, the role of social status in the practice of psychotherapy. Hollingshead and Redlich(1), from their broad survey, indicate that the upper classes preferentially receive more intensive

insight producing treatment, while the lower classes are more likely to obtain those therapies we classify as "supportive." It was assumed that, at least in part, the above findings were a reflection of the economic status of the patient. However, studies of outpatient clinics, where finances are not a barrier, still indicate a differential outcome in regard to social status, *e.g.*, Schaffer and Myers(2) have reported that the upper class patient is favored in his chances of being accepted for psychotherapy. A more recent study by Brill and Storow(3) indicates a similar result. In addition, studies by Frank and his associates (4, 5) show that the length of stay in a psychotherapeutic setting again favors the upper classes. And other studies(6, 7, 8, 9) indicate that social class is an important variable in psychotherapeutic care.

If such is the case, that the social class status of a given patient is setting limits upon the type, nature, and/or progress in psychotherapy, it will become necessary eventually to modify existing techniques and plans to meet such restrictions. In an attempt to explore some of these possible relationships our own clinic practices were examined.

This study was conducted in the adult outpatient division of the Department of Psychiatry at the University of Utah Medical School. The primary responsibility of the clinic is the training of psychiatric residents, the majority of whom are in their second or third year of residency. Pure service is a secondary consideration. The clinic, which is the only available non-private psychiatric facility in the area, is free to select those applicants felt to be in need of psychiatric help and able to profit from a dynamically oriented psychotherapeutic program. Referral sources are broad, with roughly 33% of the patients being self-referred, 15% recommended by physicians, 11% by friends and relatives, and the remainder from a miscellaneous group of

¹ Read at the 117th annual meeting of The American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

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agencies (including marriage counselling, family service, local hospitals, courts, attorneys, etc.). Eligibility for care depends only upon inability to meet private psychiatric fees; a sliding scale, which considers income, family size, and financial obligations, is employed and individualized for each applicant.

The sample studied contain 322 consecutive applicants for outpatient care. As each patient applied, routine identifying data, including social class data, were collected by a secretary, and filed. At the termination of the sample collection, the social class data, plus the statistics on the life history of each applicant, were turned over to a statistician for analysis. This study was done independently, so that neither senior staff nor fellows in training (with the exception of one author) had knowledge of the project.

Social class assignment was based upon Hollingshead's (10) "Two Factor Index of Social Position." The classes may be roughly defined as follows:

Class I: These are the community's business and professional leaders. They have post-graduate degrees and high incomes (with the exception of the academic population).

Class II: Most of these adults have had some formal college education. The males occupy managerial positions or are engaged in the lesser ranking professions. The families are reasonably well-to-do.

Class III: These constitute the so-called great white collar class. The majority of these people are employees, engaged in various salaried administrative and clerical pursuits. Some own small businesses or are semi-professionals and technicians. The majority are high school graduates.

Class IV: These are the skilled manual and minor clerical positions. Education is usually partial high school.

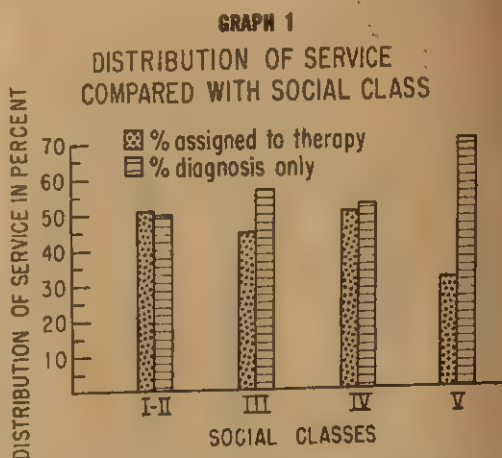
Class V: At the bottom rung of the social ladder, these people are the semi-skilled and unskilled and unemployed groups. Education is generally elementary school or less.

With the assignment of social class as above, the natural history of each of the 322 applicants was plotted, from initial screening to termination of contact.

RESULTS

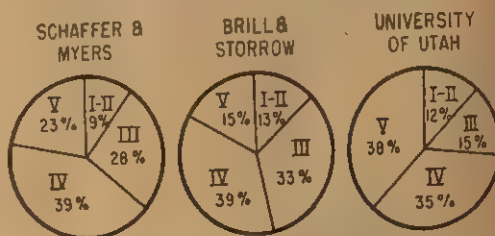
Graph 1 indicates the distribution of ap-

plicants by social class and the percentage of each group accepted for treatment. Because of the small numbers, Classes I and II are presented together. In terms of acceptance for therapy, Classes I-II, III, and IV appear to have a fairly equal chance, with 51%, 44%, and 49% acceptance respectively. The Class V patients, with 31% accepted, fared more poorly than the other groups.



Comparing the social class distribution of our applicants with those of Schaffer and Myers (2) or Brill and Storow (3) shows gross similarities among the 3 clinics (see Graph 2). However, proportionately, the Utah Clinic shows a small percentage of Class III applicants and a greater percentage of Class Vs.

GRAPH 2
COMPARISON OF PERCENTAGE OF SOCIAL CLASS
DISTRIBUTION OF APPLICANTS
WITH TWO OTHER OUTPATIENT CLINICS

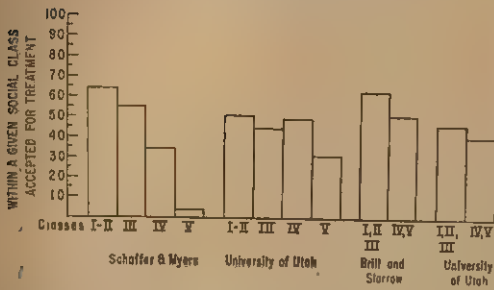


When social class distribution and acceptance for treatment are compared among the 3 clinics, a varying bias in favor of the upper class is observed.

Schaffer and Myers (2) reported a positive correlation between acceptance for

GRAPH 3

COMPARISON OF PERCENTAGE OF PATIENTS
ACCEPTED FOR TREATMENT BY SOCIAL CLASS
WITH TWO OTHER OUTPATIENT CLINICS



treatment and the height of the social class (Graph 3). In their study, 64% of Class I-II applicants were accepted, while only 3% of Class V's survived the screening process. This contrasts sharply with our 31% acceptance. Brill and Storow(3), however, demonstrate a more modest leaning in the direction of social class bias, with 63% of the upper class and 51% of the lower class patients surviving, while the Utah Clinic shows a smaller difference (47% compared to 40% respectively). Hunger for patient supply cannot account for these variations; each of the 3 clinics (operationally similar but geographically different) report relative freedom in patient selection and a surplus of applicants in relation to available therapeutic hours.

Schaffer and Meyers(2) reported that the higher the rank of the therapist, the higher the class of the patients seen by him. In examining their caseloads, there was found a predilection for upper class patients to gravitate to senior staff for therapy, while those at the bottom of the psychiatric hierarchy—e.g., the medical students—took pot-luck from the lower classes. Table 1 indicates the distribution by social class of patients according to rank of therapist in the Utah Clinic. The resident caseloads were found to have the broadest class distribution, with the medical student caseloads second.

One comment might be made concerning social class and therapist assignment. The time of the psychiatric social workers is concentrated in the lower class groups. They function largely in spouse therapy of applicants, working with the resident caseload. It was of interest to us to find that collateral

TABLE 1
ASSIGNMENT OF THERAPIST
COMPARED WITH PERCENTAGE OF SOCIAL CLASS STATUS

THERAPIST	CLASS I-II	CLASS III	CLASS IV	CLASS V	TOTAL
Psychiatrist	—	20	40	40	100 N 5
Resident	19	19	35	26	100 N 83
Medical Student	8	14	53	25	100 N 36
Psychiatric	—	0	70	30	100
Social Workers					N 10

—or dual—family therapy, within this sample, was largely restricted to the lower classes. This comes as a mild surprise. In practice, it possibly represents a tacit admission on our part that the group at the lower rungs of society's ladder demonstrate greater or more disturbed family involvement in mental illness.

Inasmuch as the majority of a clinic population come from the lower classes, Classes IV and V at any one time represent the larger percentage of terminators. If, however, the percentage terminating is calculated within each class, Table 2 demonstrates an interesting class bias.

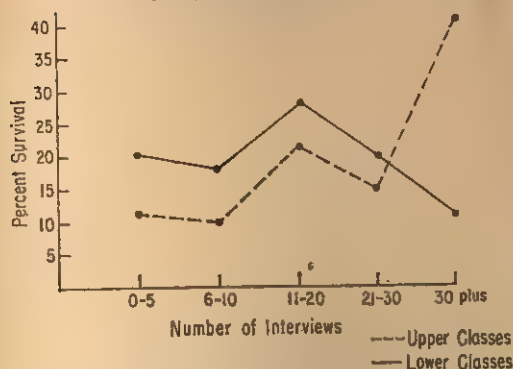
TABLE 2
A COMPARISON OF SOCIAL CLASSES
WITH SURVIVAL LENGTH IN CLINIC
Number of Interviews and Percentage Terminating
Per Class

SOCIAL STATUS	0-5	6-10	11-20	21-30	30 PLUS	TOTAL
I & II	21	10	10	16	42	100
III	5	10	33	14	38	100
IV	25	18	27	20	11	100
V	16	18	32	21	13	100

The survival time in therapy steadily drops across the social classes, with 42% survival past 30 interviews for Class I-II, 38% for Class III, and only 10% and 13% survival for Classes IV and V respectively. Plotted on a graph, the differences between upper and lower classes is striking (Graph 4).

GRAPH 4

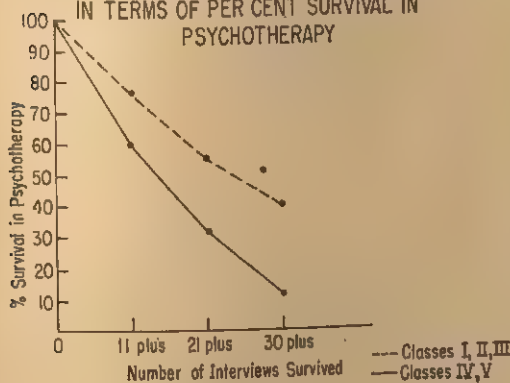
A COMPARISON OF LENGTH OF STAY IN THERAPY OF UPPER AND LOWER CLASSES



Graph 5 compares upper and lower classes in terms of percent survival, using 10-interview blocks of time. Seventy-seven

GRAPH 5

A COMPARISON OF UPPER AND LOWER CLASSES IN TERMS OF PER CENT SURVIVAL IN PSYCHOTHERAPY



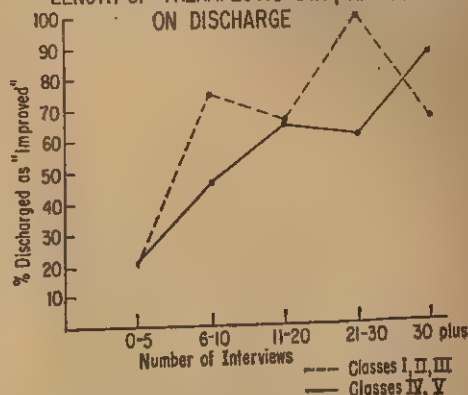
percent of the upper classes survive past 10 interviews, while the lower classes run only 60%. Actually, the greatest loss of lower classes occurs in the first 10 interviews. Past 20 interviews, 55% of the upper classes remain; 32% of the lower classes. These figures are remarkably similar to those reported by Imber, *et al.* (5), who, even when applying pressure to residents to retain patients in therapy, likewise reported that 56% of upper classes remained past 20 interviews, while only 29% of the lower groups survived. Past the 30-interview mark, the differences become greater, with 40% and 12% remaining.

Graph 6 deals with the relationship between class status and the percentage

chance a patient has of being discharged as "socially improved" as a result of psychotherapy. Of those terminating within the

GRAPH 6

RELATIONSHIP BETWEEN SOCIAL CLASS POSITION, LENGTH OF THERAPEUTIC STAY, AND CONDITION ON DISCHARGE



first 5 interviews, both upper and lower classes have a very poor chance of being discharged "improved." At the 10-interview mark, the figures begin to reverse, and thereafter, irrespective of class, a patient has more likelihood of being discharged as improved. The bias, however, leans again in favor of the upper class. To summarize, an upper class patient rates a 65% chance of being discharged improved, irrespective of length of stay in the clinic, while the lower classes have roughly as much opportunity as chance, 52%.

One immediate question is whether the loss of lower class patients might be attributed to the inclusion of the less skilled therapists, *e.g.*, senior medical students. However, when therapeutic survival is examined, using only reasonably skilled resident therapists, the attrition rate across the social classes still showed the same distribution. In other words, the tendency for greater loss of lower class patients is apparently independent of the relative skill of the therapist. However, the residents as a group did show more skill in retaining any class of patient longer, compared to the medical students.

Another question was whether any relationships might exist between therapist personality, social class status, and length of stay of a given patient. The caseloads of 4 residents had been drawn from the above

sample. Of these 4 residents, 1 averaged 10 hours more therapy time with the lower classes than the remainder of the group. This occurred despite the fact that one other resident in the sample expressed considerable interest in indigent patients; however, he proved less successful in holding such patients in therapy. These 4 residents also took the Strong Inventory Test (as applied by Whitehorn and Betz(11) with schizophrenic patients). On the "printer" and "lawyer" scales, the resident averaging more therapy hours with the lower classes likewise separated from the rest of the group. On other scales, no differences were observed. No weight can be assigned to this finding, with the sample so small; however, the study will be continued with future residents.

Examination of age, sex and diagnostic category did not yield an explanation of the observed differences. However, an interesting relationship between survival length and diagnosis did appear and will be reported at a later date.

Our findings may be summarized as follows:

1. In this clinic, there is roughly equal acceptance across the social classes of patients applying for psychotherapy, with the exception of a moderate negative bias toward Class V patients.

2. Once accepted, the patients in the upper class positions survived longer, in general, than those in the lower classes.

3. Similarly, upon discharge, the chance of being listed as "socially improved" showed a bias in favor of the upper classes.

DISCUSSION

These data confirm other reports in the literature, although a variable bias in favor of the upper classes exists from one clinic to another, concerning acceptance for psychotherapy. As has been noted, Schaffer and Myers(2) report a strong upper class bias; Brill and Storow(3), a moderate one. Likewise, the data of Bailey, *et al.*(12), are similarly supportive of class status bias. The variability of acceptance from one setting to another probably reflects a number of factors: the knowledge the community has concerning the clinic functions; the functions the clinic chooses to serve in relation

to its community; the availability of other agencies to serve as alternative treatment facilities; the general philosophy and attitudes toward treatment of a given clinic staff; and so forth.

Most reports(4-8) show that the upper classes survive psychotherapy longer. For convenience, discussion of possible relationships between social class and attrition in psychotherapy will be divided into 2 categories, although any separation will, to some degree, be artificial. The first category includes those factors external to a therapeutic situation; the second, those factors implicitly a problem within the treatment relationship. Our considerations will be restricted to the possibilities that appear to be class related.

External Factors: The most common mechanical factor is the selection process of the waiting list. For those who are accustomed to instant gratification or relief, the waiting list can serve as a barrier. Seward and Marmor(13) have pointed out that the time concept of the poorer people is in terms of "here" and "now" and "immediately"; the idea of postponement and future rewards emerges with movement up the social scale. Thus, the waiting list can bias in favor of the upper classes(14, 15). However, our clinic, during this project, had adopted the procedure of immediately interviewing all applicants; a waiting period occurred only in terms of assignment to therapy. Of those assigned, we did not find a greater fall out in the lower classes in the first 5 interviews, probably a result of the screening procedures. However, in terms of differences in therapeutic longevity among the classes, the wish for immediate relief may be a salient part of the explanation.

The problems of distance from the clinic and loss of time from work may unwittingly bias in favor of the upper classes. Although the fee may be modest or almost nonexistent, the loss of earnings involved in meeting the clinic schedule may represent a considerable burden on the family economy. If the wage earner is the patient, obtaining time to attend a clinic can be a problem. Occasionally, when the occupation is a shared group activity, absence from work may involve wasted time for other personnel. Also, the problems of baby

sitters for wives may seem small, the further one is up the social ladder, but at times may be insurmountable for lower class groups without access to helpful relatives.

Problems may reside also in the family group. The authors have been impressed with the degree of threat the clinic can pose, particularly for the lower class male. Others have pointed out the tendency of the lower classes to view agencies with hostility and defensiveness. Contact with a psychiatric clinic can be identified as one more exposure to shame and one more evidence of personal inadequacy or failure. For the male, feelings about this can lead to discontinuance before evaluation is complete. And, a female patient may be under the pressure of familial statements such as, "Going there is a bunch of hogwash"; or, "Are you still going to that stupid clinic?" (these are direct quotes!). Such pressure can be sufficient to force a patient from therapy.

Likewise, family organization is variable with social status (16). We have the impression that the degree of family embroilment in patient affairs is almost inversely proportional to the social standing. The family relationship of the lower classes generally seems to be an involved one, and the views of spouses and others are important. In contrast, as one moves up the social classes, family members tend to function more independently and individually, to dissipate more energy in interests outside the home, and to be more sophisticated or accepting of the member seeking care. This is again a glittering generality. However, we suspect that the statistical fact of our using therapeutic time for spouses *largely in the lower classes* represents, in part, a tacit admission of differences of such social organization. (Another obvious possibility is the fact that greater psychopathology may reside in the Class IV-V groups and implicitly demand a dual approach in therapy.)

Internal Factors: A number of reports are available that attempt to identify the types of patients more likely to survive in a clinic. The following patient characteristics have been described as related to success and/or longevity in therapy, to a greater or lesser degree: 1. Social status, based upon education, economics, social standing(4,

12); 2. An orientation toward behavior, rather than medication(12, 17, 27); 3. Active participation in therapy, rather than passive cooperation(17); 4. Internalization of problems and a tendency to self-blame, rather than acting out and blaming the environment(12, 18, 19); 5. Self-dissatisfaction—a wish to change things(8); 6. Possessing the traits of dependability(8), control(8), persistence(4); 7. Social integration(4, 8); 8. Having less confusion about sexual role(18); 9. Fluctuating illness, with manifest anxiety(4, 8); 10. A strong need for people to relate to, to feel worth while(18); 11. A desire to talk with others concerning problems(4, 8); 12. Subject to influence and amenable to authority(4, 21).

With the exception of the last 4 items, most of these variables seem highly related to our cultural sanction of striving for class position. These variables are, in the main, all personality traits of those more likely to succeed in our culture and to arrive at a higher social status. Many are traits required for upward social mobility. This is compatible with the fact that by far our largest clinic population represents those between the ages of 20 and 35. This age group includes those most actively involved in climbing the ladder and establishing themselves. Frank's observation(4) seems pertinent here. In his view, whether a patient values and remains in psychotherapy depends upon its usefulness in his power struggle: if therapy represents a yielding to outside pressures and weakens his power position, he tends to reject it; if it strengthens it, he stays. Parenthetically, it also appears that the above traits are largely more indicative of mental health than mental illness.

From another point of view, the first 8 items which make "good patients" are identical to the values we tend to share as a professional group. Psychiatrists enjoy the power position of a reasonably high social status and, as a rule, make their livings with their heads and with ideas, rather than with their hands and with materials. They likewise sympathize with the individual who is dissatisfied and wishes to change his lot, and this implies a reasonable desire for upward mobility and higher status. The

traits needed for this are dependability, control, and persistence: this implies a fairly well organized personality, *i.e.*, less confusion about sexual and other roles. And a reasonable integration with the main streams of society is required for success.

One might call these traits the valued social realities of the psychiatrist. To be a successful patient and to survive a reasonable period of time, there has to be a mutuality of expectations between patient and therapist(17). One would expect that some bias would occur concerning class status. It seems reasonable to expect that the upper class patient, in general, or a patient who has more upward mobility, could more easily share these values than his less sophisticated brothers who reside in a different system of social realities.

However, another system of values cross-cuts the above. The physician-psychiatrist operates also within what one might call the reality of Hippocrates, or the doctor-patient relationship. In an historical review of the subject, Szasz(22) says:

From earliest times, man feared helplessness in an unknown universe. In his own defense he invented methods of coping with anxiety. Implicit in these methods has been man's belief in an ability to manipulate events, to control and direct nature in his own behalf.

The doctor-patient relationship, which evolved from the priest-suppliant relationship, retained the belief in an ability of a parent-figure to manipulate events on behalf of the patient.

When a patient comes to a psychiatrist, he comes with this sort of expectation for relief. This brings us to the last 4 items on the list of what makes a "good patient." These appear relatively independent of social realities. The incentive item is, of course, concerning discomfort (No. 9). To meet the requirements of the psychotherapeutic situation, it requires items 10, 11 and 12 additionally.

One comment might be made here about the idea of talking to someone else. Culturally speaking, to use another generality, it appears that the male of the American species is not very accustomed to talking about personal problems. Certainly, routine applications to outpatient clinics run about two-thirds female, one-third male. (The

existence of VA Clinics does not appear an adequate explanation for this phenomenon.) Likewise, as a rule, men are more action-oriented than verbally inclined. Moving down the social scale, where economic failures reside, male patients are probably even more disinclined to seek care. As noted earlier, talking about emotional problems can equal unmanliness or an acknowledgment of another painful inadequacy.

The 2 aspects—the reality of social class differences and of the psychiatrist-patient relationship—create entangled problems. Frank's hypothesis(23) of the importance of the doctor-patient relationship to the practice of psychotherapy alludes to some of these difficulties; he states:

the maintenance or development of trust in the therapist is fostered by the therapist's own confidence in his ability to encourage the patient, to care about him (and to care, one must understand), to communicate this helpful attitude in a meaningful way . . . and this effect is not simply transient or superficial.

The first item, the ability to encourage the patient, is reminiscent of the occasional observation we make about novitiates in the field. The trainee can sometimes get results that skilled therapists regard remarkable. This is, of course, before he becomes acquainted with our systems of diagnoses and prognoses and learns which patient can respond to our efforts. When discussing a lower class patient, how many staff conferences end with comments such as, "Well, what can you do? The background is so terrible; the situation so horrible!" And, having set the clock to run, we are not much surprised when the patient cooperates with our views. Strupp(24), in particular, has offered some evidence along these lines.

The second item is the ability to care about the patient, and to care one must understand. There is no question again that some therapists have what we call the "touch." Frank and his group noted that one of their 3 residents consistently did better, faster, than the other two, although the effect leveled out in time. And, as we noted, one of the 4 residents in our study averaged a higher number of hours than the rest with lower class patients. Possibly these things can be assigned to greater flexi-

bility or greater capacity to empathize with a human being. Another aspect may be the possession of a wide variety of experiences from different social realities.

Other questions might be raised, e.g., those at the lower end of the social scale seem to operate more on immediate goals. Certainly, our greatest loss of lower class patients is occurring in the first 10 interviews. This being true, some consideration might be given to differential treatment techniques. Possibly a more direct approach with more emphasis on action is indicated for certain groups. Likewise, more interest could be paid to matching therapist and patient concerning their respective social values; this might influence the ability to reach a mutual understanding and working relationship. One implicit activity at present is the tendency to assign lower class patients for care by the social work people. It has been observed that this professional group tends to be identified with the working classes(25). Again, one might wonder whether this practice might, to some degree, reflect a tacit recognition that these people are more able to participate with these patients.

We are left with the last item, the ability to communicate a helpful attitude in a meaningful way. The work of Whitehorn and Betz(11) indicates that one can measure characteristics of therapists who are more likely to be successful with hospitalized schizophrenic patients. Although this has not been demonstrated in outpatient settings, Strupp's observations thus far make it likely that therapist variables are operant. This area is worth considerable exploration.

A last thought occurs with Frank's statement that the results of a good doctor-patient relationship are not transient or superficial. More and more, the old saw of "liking your patient" seems to be coming into its own. In a recent follow-up study by Board(26), there was a group of patients who were considered unsuccessful in psychotherapy. Those in this "unsuccessful" group who felt a negative relationship with their therapist did not feel better as a result of the contact. However, those "unsuccessful" patients who felt liked tended to feel better even though they had not met whatever goals the doctor had in mind. One can,

of course, discard such findings by regarding the patient's statements as untruths motivated by a wish to please. But possibly there is more to it than this.

This discussion of why lower class patients do less well than their upper class relatives in psychotherapy might be closed with a quotation from Szasz(22) :

... awareness of the cultural relativity of the doctor-patient relationship should make us skeptical of the assumption that our current practices are "good" or the "best possible." Probably more often than not, they are neither, but simply reflect the congruence of social expectations and socially shared ethical orientations of physicians . . . Critical examination of the doctor-patient relationship usually predisposes to change, while non-scrutiny of human social relations favors the *status quo*.

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COMMON CHARACTERISTICS OF EPILEPSY AND SCHIZOPHRENIA : CLINICAL OBSERVATION AND DEPTH ELECTRODE STUDIES ¹

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The syndrome of epilepsy is so varied that it cannot be adequately defined. By current usage, epilepsy is actually a symptom, or group of symptoms, rather than a disease. The cause has been established for the epilepsy in many instances. There are, however, a great number of patients with epilepsy for which there is no established etiology. These patients are often referred to as the idiopathic group. Despite the apparent confusion, epilepsy is a term extensively used in clinical medicine, and clinicians understand its meaning. The group of epileptics referred to in this study have no established etiology. (Such patients, as a result of advances in medical research, ultimately may prove to have some obscure metabolic or other abnormality.) This possibility will be discussed.

The most consistent symptom of epilepsy is an alteration of consciousness. Reports on epilepsy appearing in the literature since 1888(1) describe psychological symptoms, in association with the altered consciousness, as a predominant feature in some patients. The psychological symptoms are many and diverse. They can closely resemble the picture seen in the functional psychoses(2, 3); at other times, alterations of the sensorium can predominate(4). Gibbs, Gibbs, and Lennox in 1937(5) proposed the diagnostic category of "psychomotor epilepsy" for the patient group presenting a clinical picture in which psychic symptoms were prominent. This terminology has been quite universally accepted.

A high incidence of abnormal behavior between the seizures is frequent in the

"psychomotor epileptic" group. The symptoms presented by many patients in this group may be the same as those presented by patients diagnosed as schizophrenic. Gibbs, Gibbs, and Lennox(5) described the electroencephalographic patterns associated with these clinical symptoms, noting that abnormal electrical activity is characteristically recorded from the temporal leads. For this reason, the terminology "temporal lobe epilepsy" is used interchangeably with "psychomotor epilepsy."

Even though some of the symptoms presented by the epileptic patients are the same as those seen in schizophrenic patients, schizophrenia has its own characteristic syndrome. The constellation of symptoms in schizophrenia is such that trained psychiatrists agree on diagnosis in the majority of cases. The EEG of the schizophrenic subject is characteristically normal. Some electroencephalographers(6-10), however, have noted that there is a slightly increased incidence of electroencephalographic abnormality in the schizophrenic group, as compared to the non-schizophrenic group. This is not a feature unique to the disease, schizophrenia, however; it occurs with similar incidence in some other disease states(6).

In a small minority of patients, the trained clinician encounters problems in differential diagnosis between the syndromes of schizophrenia and psychomotor epilepsy. This confusion usually occurs when the interictal behavioral abnormalities of the epileptic are more prolonged, i.e., less circumscribed or episodic, and when EEG abnormalities are present. Some authors(11, 12) have suggested that this group of patients be considered a separate diagnostic entity.

With the advent in 1950(13) of depth recording from precise regions of the brain of man over prolonged time periods, recording abnormalities were obtained from specific deep nuclear masses, but not from

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the conventional scalp EEG recordings, in schizophrenic patients during periods of psychotic behavior. This evidence suggested to some that schizophrenia and epilepsy might be manifestations of one disease; other investigators postulated that this is evidence of a continuum between the two diseases. We have carried out depth recording studies in epileptics, schizophrenics, and control subjects (falling into neither diagnostic category) since 1950. Pertinent data from these studies, basic for this discussion as to whether or not the syndromes are related, will be presented.

MATERIAL AND METHOD

Forty-eight patients have been included in the Tulane study (a total of 57 operative procedures were performed since some patients were reoperated).³ Forty of the 48 patients were psychotic with 36 of the 40 being undeniably schizophrenic by all accepted criteria. Six were epileptic: 2 of the 6 were afflicted with seizures only; 4 displayed marked behavioral symptoms in addition to seizures. Of the total 48 patients, 6 did not fall into either diagnostic category and, therefore, served as control subjects. These control subjects had other diseases; for example, intractable pain, parkinsonism, narcolepsy. They did not show recording abnormalities and, therefore, will not be considered in this presentation.

Our stereotaxic method for implantation of electrodes in the brain of man has been described (13-15). Electrodes are implanted with precision (within 2 millimeters of target point) into predetermined brain regions. The electrodes are of a design which we have demonstrated to be the most effective in recording potential changes with alterations of behavior.⁴ To determine the most effective electrode, we implanted electrodes of one design into one-half of a cat's brain and electrodes of another type, to be com-

pared, into the exact sites in the other hemisphere. The animal was given chemical compounds, including sedatives, Metrazol, and psychotomimetic drugs, which markedly altered levels of psychological awareness. Recording changes in association with the altered behavior were much more clearly revealed in the recordings obtained with the silver ball electrode. With our stereotaxic method, the electrodes remain accurately in place for periods up to two years. They are affixed by means of special plugs in the trephine holes, brought under the scalp for some distance, thence through the skin, and soldered to 15 or 25-place plugs.

Recordings obtained in the first two weeks after implantation are difficult to interpret; they are contaminated with artifacts resulting from trauma of operation and the residual effects of anesthesia. After the initial two-week period, however, when electrodes do not move, the recordings correlate with the fluctuating clinical state of the patient. The specific brain regions from which we have recorded in our various patient groups are listed in Figure 1. The

FIGURE 1

Anatomical Structures from which Recordings were Studied

(57 Implantation Procedures—Recording after 54 Procedures)

Septal Region
Caudate Nucleus
Hippocampus
Amygdala
Thalamus
Globus pallidus
Hypothalamus
Mesencephalic tegmentum
Cingulate Gyrus
Cortex—(all lobes)

Note: In many subjects, multiple electrodes have been implanted in a given subcortical region.

maximal number of electrodes we have implanted in one patient is 39: 25 in the deep regions and 14 over the cortex (Figure 2).

In our earlier studies, the Grass electroencephalographic 8-channel machine (Model III-D) was used; recordings were later made by synchronizing two 8-channel machines. Recently, as we have implanted

³ Total number of patients and operative procedures as of 4/30/61.

⁴ The electrode consists of 4 strands of #40 gauge silver-plated copper wire with a one millimeter silver ball fused to the terminal end. The insulation, poly-vinyl-chloride, completely encompasses the copper wire and is affixed to the wire and silver ball with "General Cement" (coil coating cement).

more electrodes, one 16-channel (Model IV-B) and two 8-channel (Model III-D) Grass machines have been synchronized so as to record simultaneously from 32 channels. In all 36 schizophrenic patients recordings were obtained during psychotic episodes; in the last 14 of the schizophrenic patients, recordings were obtained during periods of complete remission of psychotic symptoms and during periods of severely disturbed behavior. In 4 patients with seizures and psychotic behavior, recordings were obtained during both clinical states (*i.e.*, seizures and episodes of psychotic behavior) and during asymptomatic periods. In 6 of the epileptic patients, recordings were obtained throughout spontaneous clinical seizures; four spontaneous classical psychomotor seizures were recorded in one patient. Recordings were obtained during two spontaneous grand mal seizures in another patient.

Abstracted histories of 4 patients whose sample recordings are included in this presentation to illustrate the data follow.⁵

Patient B-5 (A.V.), white female. Diagnosis: Psychomotor and grand mal epilepsy. Date of birth: 9/26/27. Date of operation: 12/21/60.

Onset of present illness at 11 with 10-15-minute black-out spells consisting of hyperactivity and beating head against wall; pre-operative spells: "a scream, a fall, then running,"—usual duration 5 minutes, but infrequently lasting up to 1½ hours; sometimes exhibitionistic in spells. Three turbulent marriages with two pregnancies and one child. Physician's description of spells: adverse seizures with initial loss of consciousness followed by drawing of head to right, vocalization, clonic convulsions followed by confused, fighting state. Nov. 1960 mental status: chronic brain syndrome of unknown cause in individual of borderline defective intelligence; April 1960 right angiogram "normal"; October 1960 EEG (and on repeated studies)—"nearly continuously discharging center in right anterior temporal lobe with some overactivity in the left anterior temporal lobe." All physical and laboratory examinations have otherwise consistently been within normal limits.

Patient B-4 (A.D.), white male. Diagnosis: paranoid schizophrenia. Date of birth: 7/25/30. Dates of operations: 11/10/60, 5/17/61.

Family history—psychosis in mother and possibly in father. Education—3 years college; hospitalizations: 1951-53 and from late 1954 to present; previous treatments included a variety of chemical compounds and extensive courses of EST; EEG 9/30/60: "borderline with mild inconsistent asymmetries and a tendency for increased activity in the left temporal and anterior temporal areas," although many other EEGs have been reported as "normal." All other physical, x-ray, and laboratory work-ups have been within normal limits; mental status examination 9/28/60: schizophrenic reaction, paranoid type with deterioration.

Patient A-26 (A.G.), colored male. Diagnosis: epilepsy. Date of birth: May, 1927 (day of month unknown). Date of operation: 10/31/57.

Family history—mother psychotic. Convulsions and enuresis as a child. Delayed puberty to 19 at which time he graduated from high school high in the class of which he was president. One year Navy service with constant trouble, but honorable discharge, following which he held a job for 7 years in the Post Office Department. First seizure 1951 with "spasm, stiffness, crying, and confusion followed by depression." Committed 1952-57 in mental hospital. All laboratory, x-ray, and physical examinations were within normal limits except the EEG of 5/16/57 which showed paroxysmal mixed delta-theta activity to which 500 mg. Chloralose added nothing but sleep pattern. Mental status 10/29/57: "episodic periods of gross dyscontrol, occasional grand mal seizures, and episodes of confused behavior."

Patient A-24 (H.G.), colored male. Diagnosis: seizures and psychotic behavior. Date of birth: 1/18/27. Date of operation: 11/29/56.

Family history—brother paranoid schizophrenic. Treatment for lues 1943 with consistently negative spinal fluid examinations and no evidence at any time of neurosyphilis; otherwise, P.M.H. negative. Eleven months (1944-45) in U. S. Air Force. First "spell" and hospital admission in 1944; grand mal seizures have been described on numerous occasions since then up to 15 in a single day; also, a variety of psychomotor seizures beginning 1954 with subsequent amnesia. Seizure incidence significantly reduced with dilantin-phenobarbital treatment. Prolonged episodes of bizarre behavior since late 1955, leading to second

⁵ Detailed histories of patients are available upon request. Space limitation prevents elaboration here.

mental hospital admission in 1956 at which time work-up, including a P.E.G., was within normal limits. Two weeks after discharge, he was readmitted with frequent seizures and interictal behavior described as hallucinatory, and virtually unmanageable. Discharged after 5 weeks with diagnosis of psychosis with psychomotor and grand mal epilepsy; again readmitted 1956 after a series of seizures. Physical examination revealed otosclerosis and a minor stammer in speaking, but otherwise "normal." Routine laboratory and x-ray studies were within normal limits. Conclusion of mental status examination in October 1956: epilepsy with episodic psychotic behavior.

RESULTS

The principal features of our recordings from each of the groups studied (schizophrenic, epileptic, psychotic-epileptic, and control subjects without brain disease) will be presented.

Schizophrenic Group. The recordings during remission were essentially the same as those obtained from the control group. When the schizophrenic patients were in periods of active psychosis, recordings were characterized by the appearance of spiking and slow wave activity, primarily in the septal region and, to a lesser extent, in the hippocampus and amygdala. The spiking and slow wave activity spread to appear in other structures only when it was of very high amplitude in the recordings from the septal region and hippocampus.

In schizophrenic patients displaying symptoms of retardation, *i.e.*, catatonia and hebephrenia, there was more slow wave activity and the spiking was less sharp, better described as "sharp waves." The spike was much sharper in schizophrenic patients displaying predominantly paranoid symptomatology. These recordings have been described in detail (13, 15, 16).

Epileptic Group. Recordings were obtained during spontaneous seizures from onset through the post-ictal phase on numerous occasions from 6 patients; psychomotor seizures were recorded in all 6 patients; recordings were obtained during grand mal seizures in 1 patient. Recordings during Metrazol-induced seizures were obtained in 2 subjects and, on several occasions, recordings during seizures induced with electrical stimulation to deep regions

(in most instances, the rostral hippocampus) were obtained. Only data from the spontaneous psychomotor and grand mal seizures will be presented.

The most striking feature of the recordings from epileptic patients between seizures was their variability. This variability can be demonstrated adequately only by reviewing entire records. Cut-outs of recordings from Patient B-5 only partially demonstrate the important features (Figures 5, 6, 7, 8, 9). During interictal periods, most of the epileptic subjects presented paroxysms of abnormal activity which appeared in one area and then another, but which always began in parts of the olfactory brain (hippocampus, amygdala, and septal region). During the recording in Figure 5, no gross behavioral abnormalities were apparent. Patient B-5 was showing poor contact with reality during the time that the recording in Figure 6 was made. She expressed the idea that she was communicating with her long deceased father and asked if her thoughts were being recorded by the "machine." A focal spike appeared in the septal region. Leads only one millimeter removed did not reflect this. The abnormal activity occasionally was reflected in recordings from the cortex and less frequently in the conventional scalp leads. When the recordings in Figure 7 were obtained Patient B-5 did not present the gross clinical manifestation of a clinical seizure despite the paroxysmal burst of seizure-like activity. Recordings, however, were obtained during spontaneous psychomotor seizures on four occasions in this patient; on three occasions, the paroxysmal seizure activity began in the left posterior hippocampus, spread to the left anterior hippocampus, amygdala, and septal region, and then to all parts of the brain; on one occasion, the seizure began in the right hippocampus, spread to the septal region, and then took over in all leads. Figures 8 and 9 are cut-outs from the recordings of Patient B-5 during one of her psychomotor seizures. This seizure had a duration of approximately 2 to 3 minutes, during which time there was a loss of contact; the patient had a fixed, staring gaze and did not reply to questions nor respond to sensory stimulation. She appeared not

FIGURE 2
X-ray of Patient #B-5

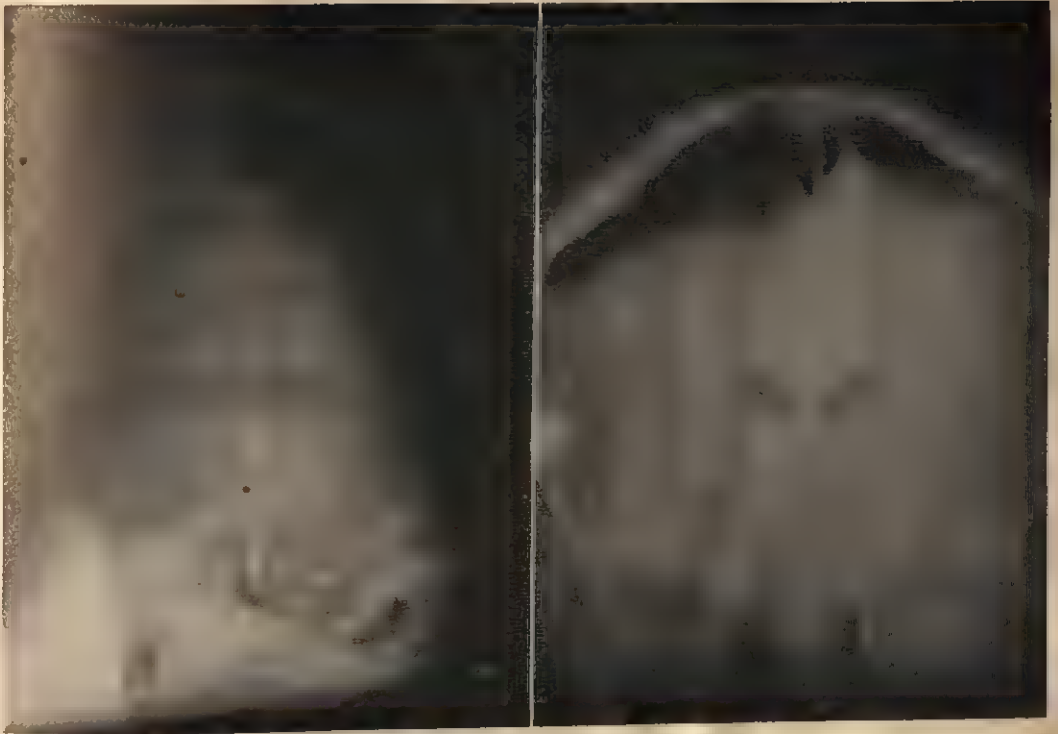


FIGURE 3
EEG Recording (Cortical and Subcortical) from Patient #B-4
During Period of Remission.



FIGURE 4
EEG Recording (Cortical and Subcortical) from Patient #B-4
During Period of Psychosis

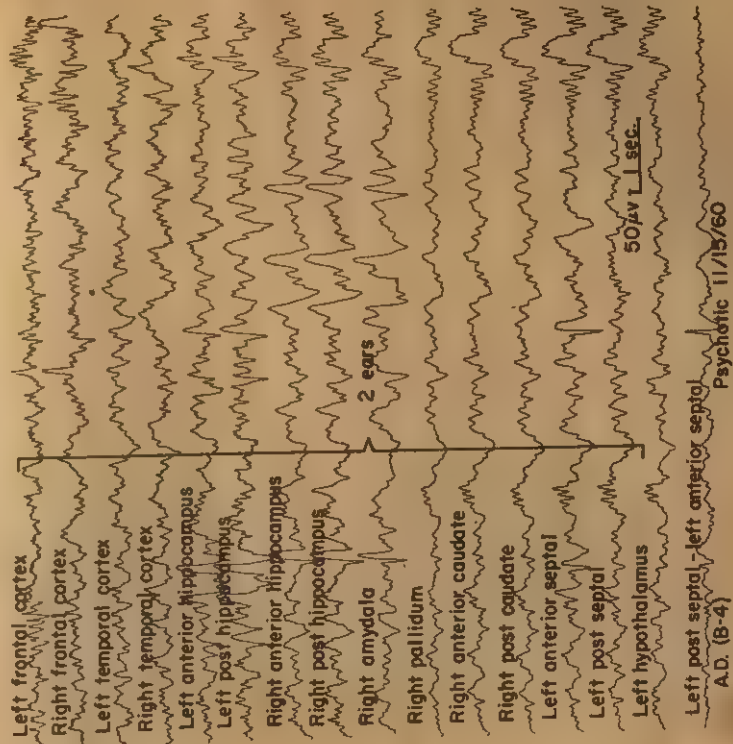


FIGURE 5
EEG Recordings (Cortical and Subcortical) from Patient #B-5 Demonstrating
Characteristic Activity Between Seizures (Inter-Ictal)

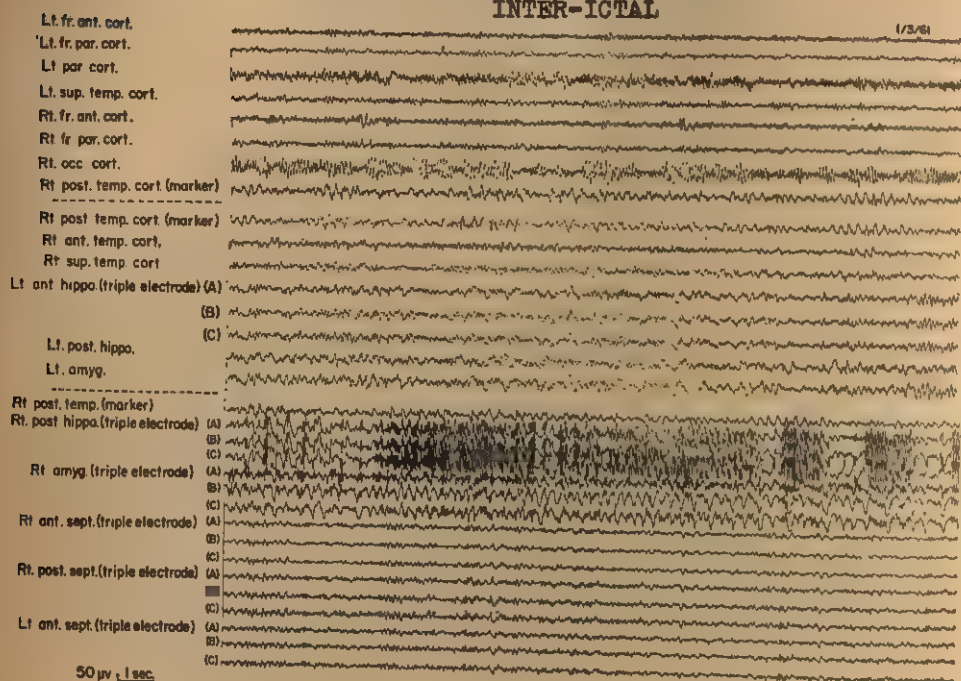


FIGURE 6
EEG Recordings (Cortical and Subcortical) from Patient #B-5 Showing
Focal Spike in Septal Region

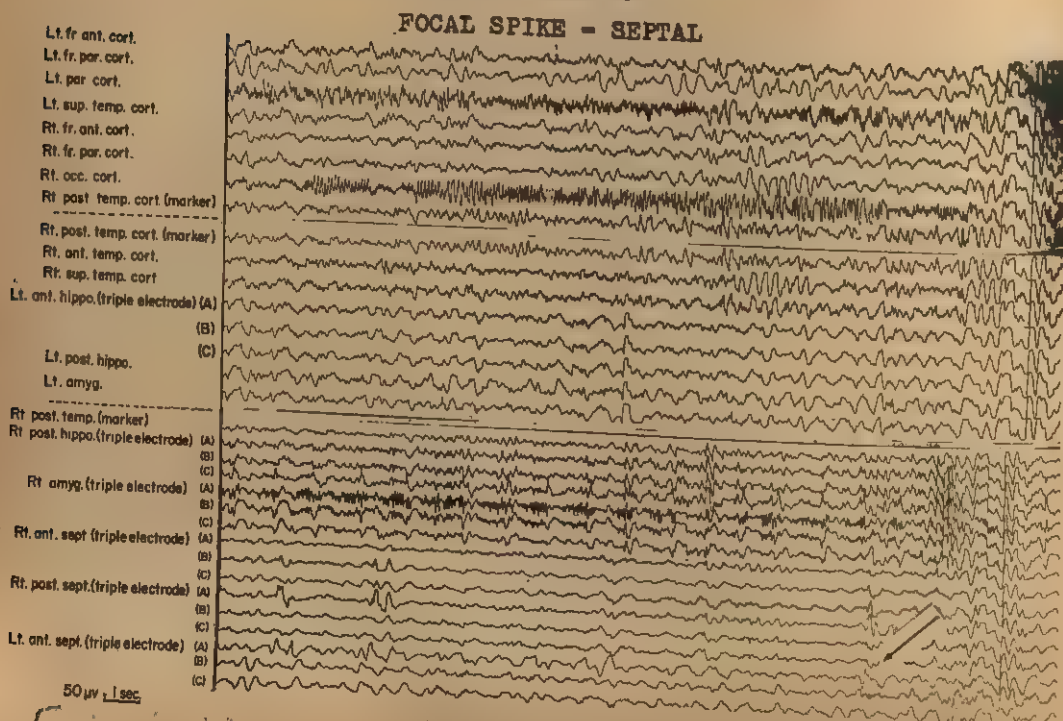


FIGURE 7
EEG Recordings (Cortical, Subcortical, and Scalp) from Patient #B-5

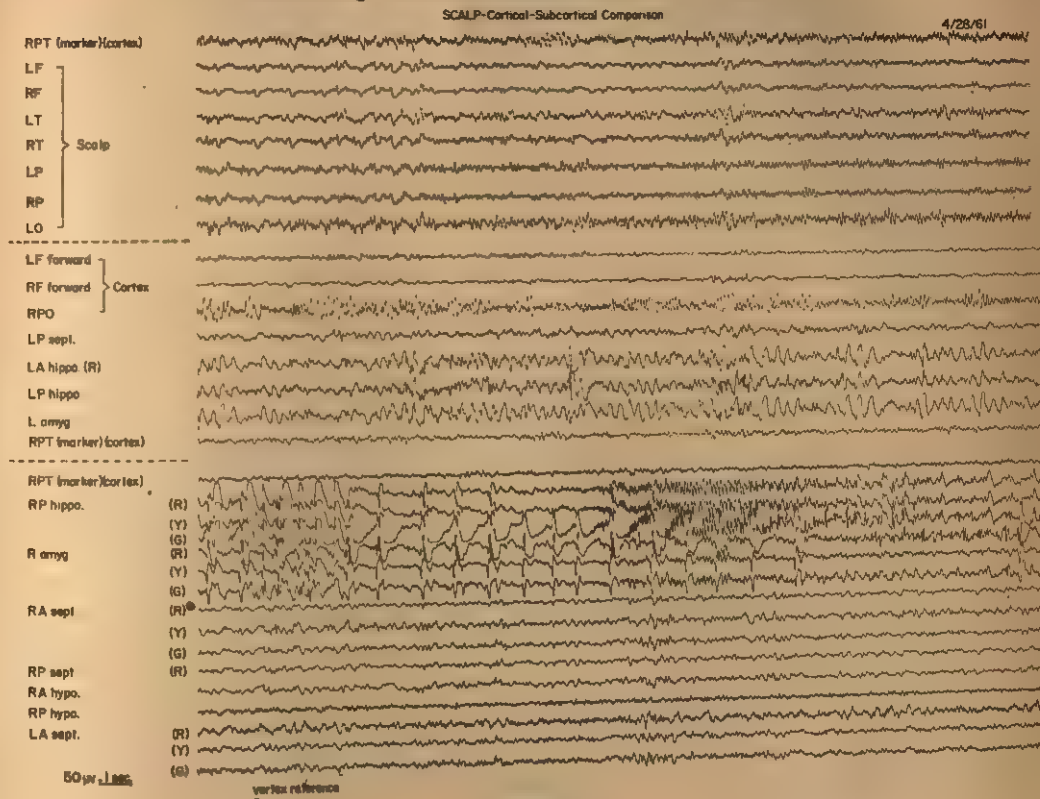


FIGURE 8
EEG Recordings (Cortical and Subcortical) from Patient #B-5 Showing Development of Seizure Originating in Left Posterior Hippocampus

HIPPOCAMPAL SEIZURE

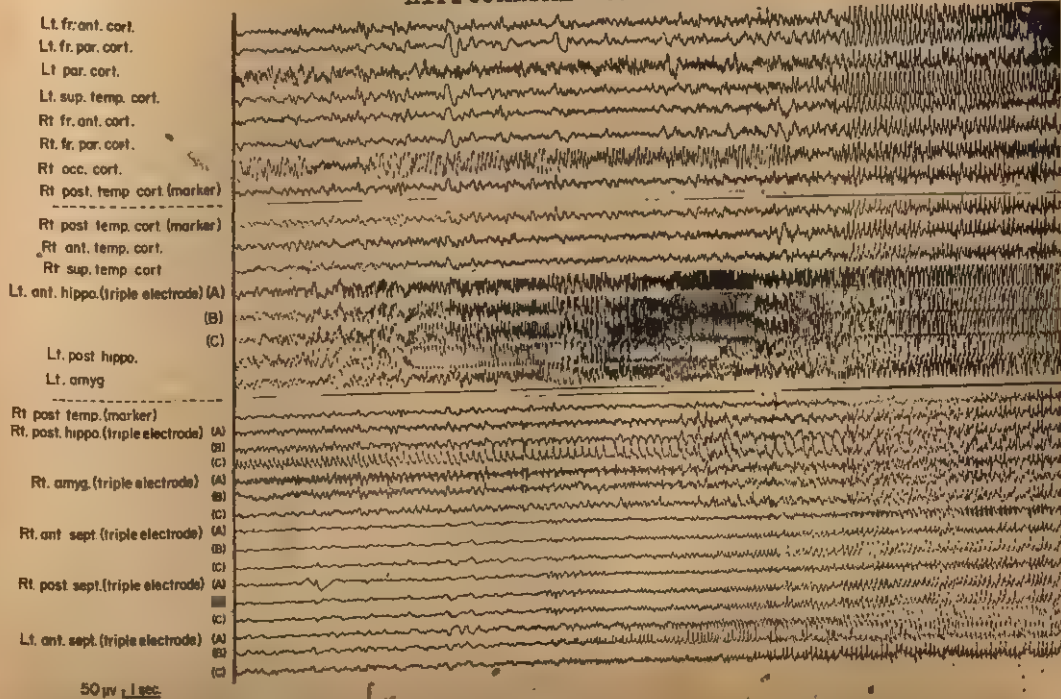
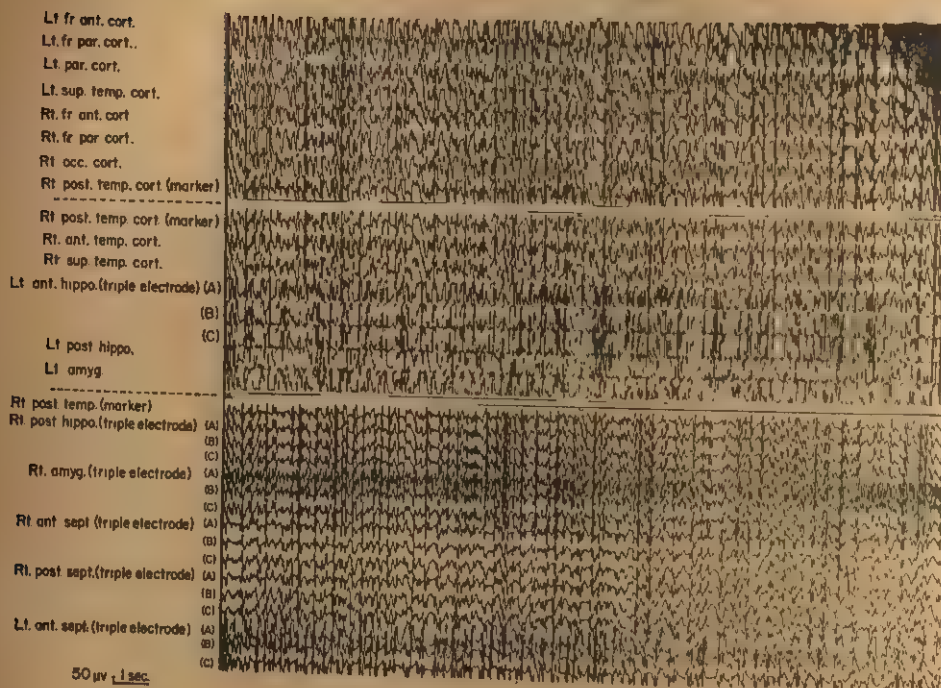


FIGURE 8

EEG Recordings (Cortical and Subcortical) from Patient #B-5 at Time the Clinical Seizure Was Most Evident.

HIPPOCAMPAL SEIZURE

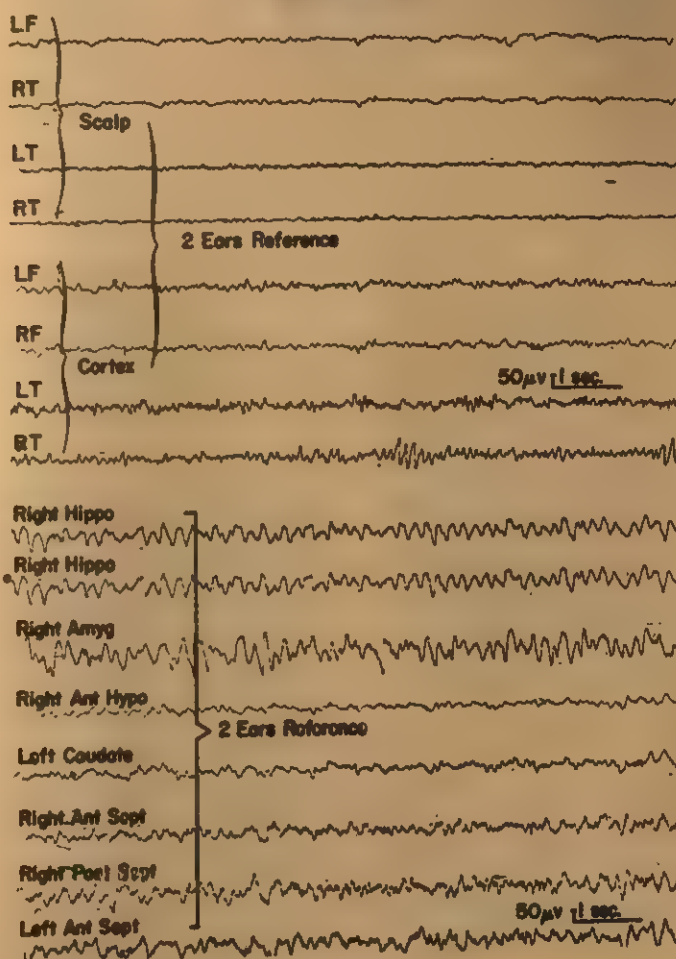


to recognize persons or surroundings. There were rhythmical movements of her hands, maximal on the left. This activity was characterized by forced grasping of the right hand by the left. Simultaneously, a slight turning of the head to the left occurred. The seizure disappeared gradually after 3 to 5 minutes. Figure 8 shows the development of the seizure originating in the left posterior hippocampus. The seizure discharges spread to the amygdala and the lowest left anterior hippocampal lead, then to the middle left anterior hippocampal lead, and finally to the uppermost of the three left anterior hippocampal leads. At approximately the same time, a series of monophasic spike discharges occurred in the middle left anterior septal lead. This was followed in 10 seconds by seizure-type activity consisting principally of monophasic and diaphasic spike discharges and delta activity into the right hippocampal lead and the cortex. Figure 9 is a cut-out of the recording at the time the clinical seizure was most evident. As the generalized sei-

zure began to diminish, 14 to 15-second spindling-type activity appeared in the upper two electrodes of the right amygdala with the uppermost electrode showing the highest amplitude wave. Some seizure activity persisted in the left amygdala and left anterior and posterior hippocampal leads for 20 more seconds. For some time post-ictally, there was high amplitude delta activity. Following this seizure, the delta activity remained focal and confined to the uppermost anterior septal lead.

Figures 10 and 11 are sample recordings obtained from a patient (A-24) with grand mal epilepsy. This patient, in contrast to Patient B-5, entered into phases of complete remission with recordings being normal for days or weeks. A recording obtained during a period of remission is shown in Figure 10; a recording obtained at the onset of a seizure is shown in Figure 11. The paroxysmal seizure activity began in the amygdala and hippocampus. The patient, during this period, was disturbed, out of contact with reality, and displayed characteristic psy-

FIGURE 10
EEG Recordings (Cortical and Subcortical) from Patient #A-24 During
Period of Remission

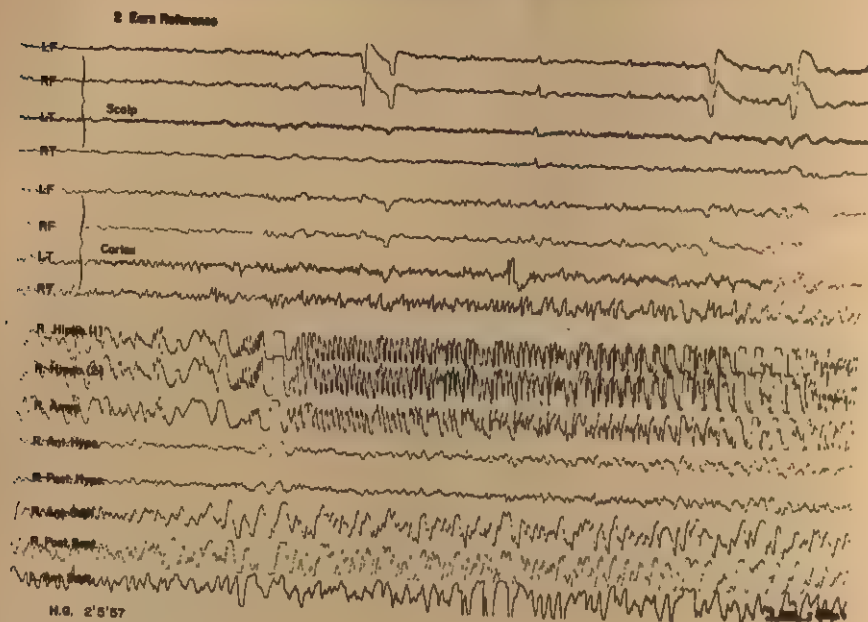


chotic symptoms. The paroxysmal activity next spread to include the septal region. This activity remained limited to the amygdala, hippocampus, and septal region for a matter of 50 to 80 seconds, and then appeared also in all other deep and cortical structures. When the activity became generalized, the patient displayed the typical clonic and tonic movements characteristic of the grand mal seizure. The post-ictal recordings showed generalized slow wave activity in association with the clinical picture of stupor.⁶ Essentially, these same principal features were seen in recordings from other patients during grand mal seizures.

⁶ At the time of presentation, a 16 mm. film of the EEG recording was shown. The film is available for loan.

Epileptic-Psychotic Group. Four patients with grand mal epilepsy who, in addition, suffered interictal periods of severely disorganized psychotic behavior with delusions, hallucinations, and agitation as principal symptoms, were included in this study. The periods of decompensated, psychotic behavior of these patients lasted from several days to 3 months. In two patients, A-24 and A-26, presenting similar behavior during these periods, we obtained similar recordings characterized by sharp spiking with slow wave activity which was striking, in the degree of its abnormality. During such periods when the behavior of the patients was psychotic, these abnormalities only occasionally appeared on the cortical leads and less often on the scalp leads

FIGURE 11
EEG Recordings (Cortical and Subcortical) from Patient #A-24 at Time of
Onset of Seizure



(when employed). Several patients in the series had electrodes implanted into the reticular activating system. In no instance were we able to correlate electrical changes from these leads with behavior.

A significant observation, in our opinion, was the striking difference in recordings of this patient group during interictal psychosis compared to those of the severely decompensated psychotic schizophrenic group, even though the clinical picture during these periods was nearly indistinguishable. In contrast to the relatively infrequent spiking (appearing every 5 to 20 seconds, or less often), often associated with some slow activity in the septal region, hippocampus, and amygdala in the schizophrenic patients, the epileptic-psychotic patients showed dramatic spiking of higher amplitude appearing more frequently along with much more pronounced slow wave activity. The principal feature these two patient groups had in common was the appearance of the primary recording abnormality in the same anatomical regions. The abnormality, however, appeared more frequently in other structures as well in the epileptic-psychotic group; *i.e.*, it was recorded from the cortical leads and, less often, from the scalp

leads, usually in the temporal region. It is important to emphasize, however, that cortical and scalp recordings never *appropriately* reflect the storm of abnormal activity present in the specific subcortical structures. Similar findings in the epileptic-psychotic group have recently been reported by Sherwood (17).

Several authors have suggested the possibility of demonstrating the abnormal subcortical electrical activity on routine scalp recordings by administering chemical compounds that, seemingly, activate electroencephalographic abnormalities (18, 19, 20, 21, 22, 23). In our studies, this promising lead has not been substantiated. We have employed alpha chloralose, 6, 7, 8, 9-tetrahydro-5-azepentazole (Metrazol), and thiopental sodium (Pentothal) as activators, but have not been able to demonstrate that the specific abnormalities appearing on the subcortical recordings are demonstrable on scalp recordings. These activating drugs do induce a higher incidence of abnormalities on scalp recordings, but this occurs in the nonpsychotic, non-epileptic control group in essentially the same incidence as in the schizophrenic group. The details of this

FIGURE 12
EEG Recordings (Cortical and Subcortical) from Patient #A-26 During
Period of Remission

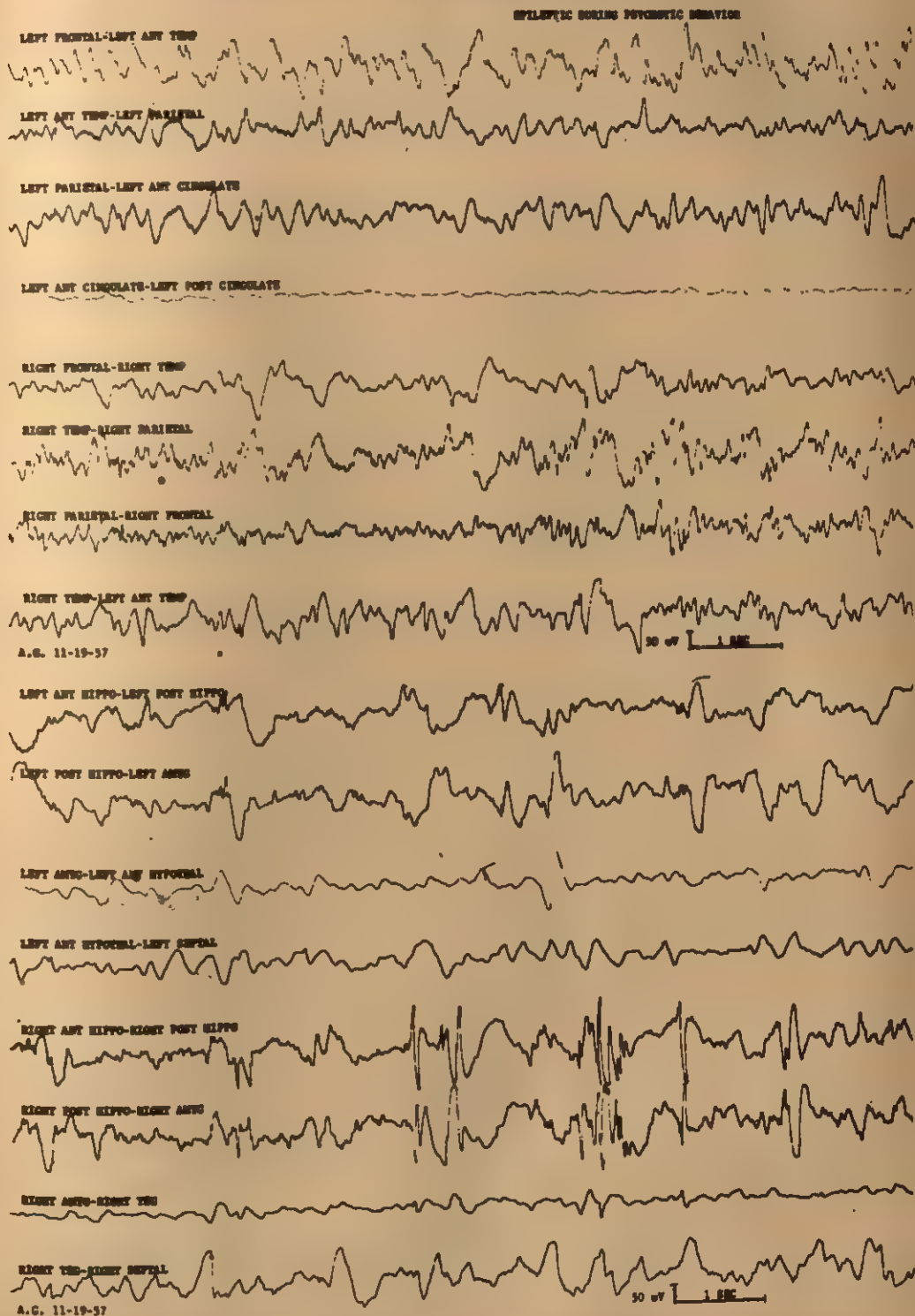
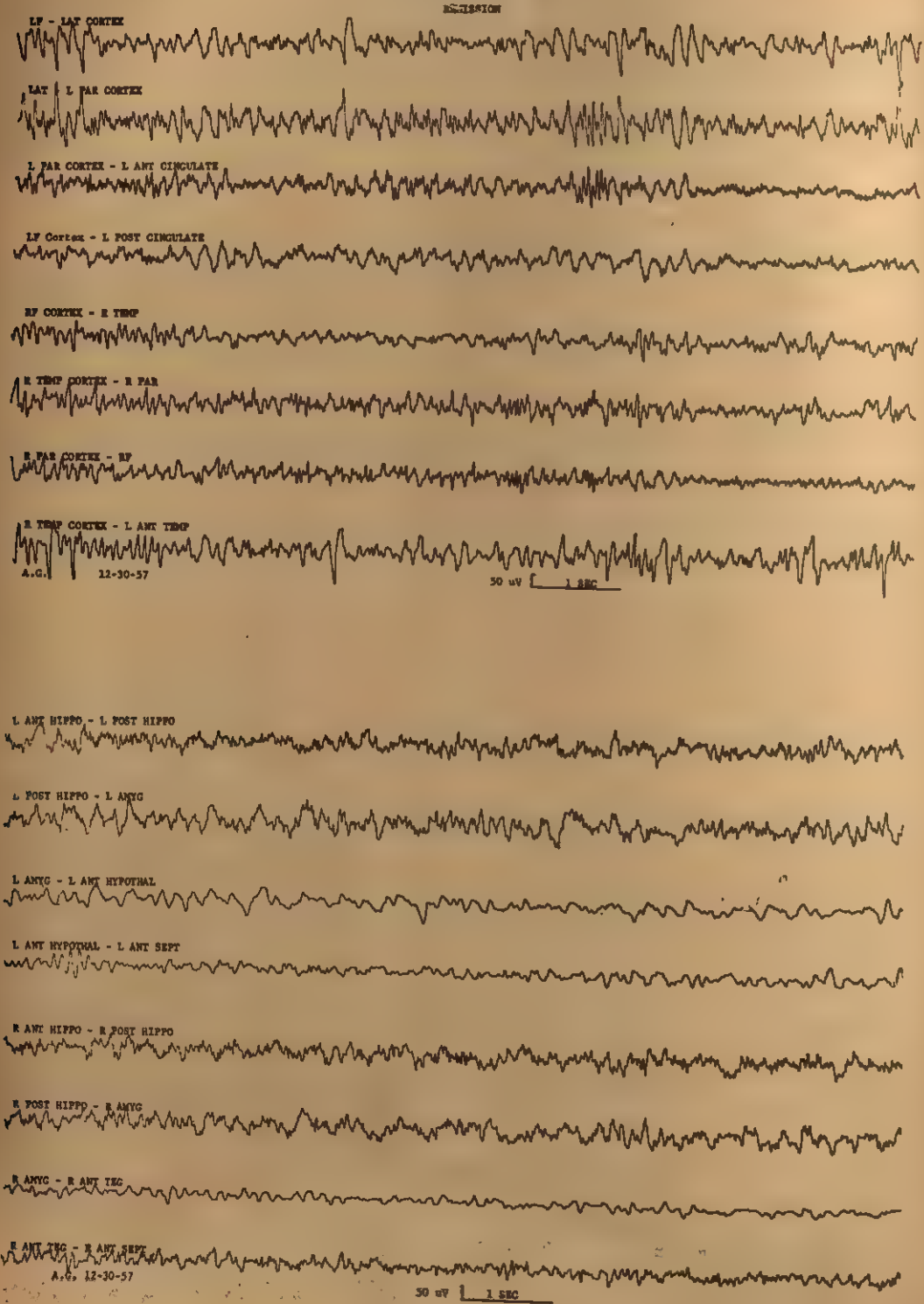


FIGURE 13
EEG Recordings (Cortical and Subcortical) from Patient #A-26 During
Period of Psychosis



rather extensive study are being prepared for publication(27).⁷

DISCUSSION

The principal issues with which we are concerned are first, does the utilization of the special techniques described contribute to our understanding of the nature of the two disorders, schizophrenia and epilepsy, and, secondly, is there a relationship between the two disorders? It is worth restating that epilepsy is a symptom, not a separate disease entity. Within the epilepsies, however, there is a syndrome with relatively well demarcated symptoms and a brain dysrhythmia for which no definite etiology or consistent pathology has been established. It is this syndrome, sometimes called "idiopathic epilepsy," with which we are concerned here.

The diagnosis of schizophrenia is dependent upon clinical symptoms and the course of the disease. Symptoms of psychosis can result from a wide variety of pathological processes. In schizophrenia, however, no definite etiology and pathology have been established; patients analogously could be characterized as "idiopathic psychotic." The absence of a definite etiology and pathology are the principal bases for confusion in boundaries between these processes. The reasons advanced for relating these two diseases, namely the presence of psychotic symptoms in association with seizures in the epileptics and the occasional appearance of temporal lobe spikes⁸ in patients diagnosed as schizophrenics, are not valid since these criteria are not specific.

The depth recordings of the seizural group are quite different from those of the

schizophrenic group. This is so even during periods when the epileptic is displaying clinical features indistinguishable from the schizophrenic. The anatomical regions from which the abnormal recordings are obtained are the same for the two groups. In the seizural group, however, the abnormalities are more pronounced in the hippocampus and amygdala and less pronounced in the septal region. Recording abnormalities in the schizophrenic patients are predominantly in the septal region. There is no reason, in the author's opinion, for concluding that the two processes, schizophrenia and epilepsy, represent a single disease because of involvement of the same anatomical structures. It is our experience that similar symptoms appear whenever these anatomical structures are implicated, regardless of the nature of the pathological process; for example, psychotic behavioral symptoms and altered electrical activity also are present with tumors, degenerative processes, infections, and toxic agents affecting these structures(25, 26).

We have conducted studies with chemical compounds which affect the septal region, hippocampus, and amygdala in profound and differing ways. These studies have contributed to our understanding of the schizophrenia-epilepsy relationship. The effects of Metrazol on the brain are widespread. When Metrazol induces seizures, however, a rhythmical discharge of the type recorded spontaneously in the epileptics is recorded first from these same olfactory structures. When the administration of d-LSD produces psychotic symptoms, the clinical symptoms are associated with abnormal electrical discharges which are most marked in recordings from these same anatomical structures. The recording abnormalities resemble those seen in schizophrenic patients (with some distinguishing differences—15). The administration of Metrazol is not associated with the appearance of psychotic symptoms. The administration of d-LSD does not induce seizures. Thus, although these two compounds affect the same anatomical structures, they apparently do so differently and different symptoms result.

Studies designed to clarify the nature of the biochemical lesion in these two endogenous processes, schizophrenia and epilep-

⁷ The three compounds were administered on two separate occasions to each of 77 patients of a carefully screened population of schizophrenics on the Tulane Research Unit of the East Louisiana State Hospital, Jackson, and to each of 25 prisoner volunteers of the Louisiana State Penitentiary at Angola who had been carefully screened.

⁸ Although it is necessary to refer to the sites of abnormal electrical discharge, the author wishes to caution against considering any part of the brain as an isolated center. This would be a gross, unjustified oversimplification. At this stage, it is of some value to relate, where possible, clinical phenomena with electrical activity in specific sites. We, however, must remain cognizant that the brain is so richly interconnected that unusual activity in any one part affects all other parts.

sy, have progressed. Evidence is accumulating to suggest a rather precise and specific biochemical abnormality basic to the processes. The administration of taraxein, a product obtained from the serum of schizophrenic patients, produced recording abnormalities and psychotic behavior resembling that seen in schizophrenic patients. Increasing the dosage of taraxein does not induce seizures; this suggests that the cells of the brain are affected in a specific manner by these chemical compounds. Our depth recording and biochemical studies suggest that there may be an independent disease, schizophrenia, and an independent disease, epilepsy, and that there may be a highly specific biochemical lesion present for each disease. It seems, on the basis of studies conducted thus far, that the chemical lesions affect cells of a common anatomical locale, but affect them in different ways.

SUMMARY

Data presented, gathered by special techniques, add some clarification to the nature of the seemingly similar and related disease processes of schizophrenia and epilepsy. These data indicate that schizophrenia and epilepsy probably are different entities.

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PERSONALITY AND TUBERCULOSIS: A RE-EXAMINATION¹

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In 1954, we stated the opinion(1) that new treatment methods had radically altered the rehabilitation philosophy and outlook for the patient with tuberculosis. Briefly, we had come to believe that the possibility, indeed the desirability, of an active life while undergoing chemotherapy had shifted the whole focus in tuberculosis from inertness, bed rest, and dependency to active rehabilitation programs. Now, 6 years later, we can review our experience with more sureness and state our philosophy more specifically.

The concept of disease as an interaction between host and pathogenic agent is an old one. The elaboration of this concept to include such factors as the economic, social, and psychological milieu of the host is now also widely accepted. A still more sophisticated and (for obvious reasons) somewhat harder to accept approach also takes notice of the role of the physician and the treatment in the complex. For the tuberculous infection, Rich(2) set up the general formulation:

$$L \propto \frac{V \times N \times H}{R^{(n+a)}}$$

to illustrate the "relation of the extent and destructiveness of the Lesion which will develop in a given tissue in a given time following infection to the Virulence and Numbers of the bacilli that initiate the infection and to the Resistance (native and acquired) and Hypersensitivity of the individual."

¹ Read at the 117th annual meeting of The American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

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³ It should be borne in mind that this formula (and as subsequently modified) is a convenient diagrammatic notation* of certain interrelationships but makes no pretense to being an equation, precise and quantitative, in any mathematical sense.

Let us now modify this formula³ to take cognizance of those Environmental, Intrapsychic, and Treatment factors (the last including the physician himself) which favor homeostasis and normality and those which damage homeostasis and normality. We shall further substitute for the Lesion, the total Clinical picture which we see at a given time. We arrive then at:

$$C \propto \frac{V \times N \times H \times E_d \times I_d \times T_d^*}{R^{(n+a)} \times E_t \times I_t \times T_t}$$

* Even this is, of course, an oversimplification because it seems to imply that E, I, and T are independent variables, whereas in reality, for example (and as we shall see), the nature of T profoundly affects the nature of I—and vice versa—but to try to show all this in the formula becomes too complicated.

The term "iatrogenic" has generally come to be one of opprobrium. This is often unfair. What the doctor does in his treatment may be a necessary and even rational consequence of what is known about a disease at a given time, yet it must be classified as partly T_d (i.e., destructive treatment) and contributes to E_d and I_d (or destructive environmental and intrapsychic factors).

We place tuberculosis among the psychosomatic illnesses. Weiss and English(3) define "psychosomatic" as indicating "a method of approach to general medical problems, that is, the simultaneous application of physiological and psychological techniques to the study of illness in an effort to make a definite diagnosis and in preparation for comprehensive medical care." Few today would quarrel with the usefulness of such an approach to tuberculosis, particularly as it applies to "comprehensive medical care." True, psychological techniques are not used in making the definitive diagnosis of tuberculosis, but such techniques are resorted to in understanding the pathogenesis of the disease. While Rich did not include psychological factors in his original formula referred to above, he recognized their importance elsewhere(4).

Among the psychosomatic illnesses tuberculosis may well occupy a unique position today, in that development of a new treatment philosophy and techniques has virtually changed the total clinical picture of the disease (C in our formula) to a new entity.

The personality of the tuberculous patient has received extensive attention. Some investigators, *e.g.*, Wittkower (5), have come up with specific personality profiles. Some, *e.g.*, Benjamin, *et al.* (6), concluded simply that tuberculous patients show the universal dependency conflicts of our culture, exaggerated by the treatment methods and the sequelae of this particular disease. Along this line and after reviewing the literature, we concluded that although patients with tuberculosis generally have problems with dependency, "today, for the first time, the dependency encouraging factors have been enormously reduced—provided hospital staff and patients are willing to give them up" (1). Now, after 6 more years experience, we can say that the "characteristic" personality features that are sometimes attributed to the tuberculous patient (dependency, passivity, rebellious and self-defeating patterns, withdrawal, exaggerated denial on the one hand, and excessive depression on the other) are often artefactual and reversible. Our evidence for this statement derives from several sources:

1. *The daily administrative experience of the hospital.* Relatively few of our patients leave against medical advice or have to be discharged for disciplinary reasons. Even with our rather large number of drug resistant cases who might well be demoralized by the bleakness of their outlook, the figure runs about 10%. A number of these who left were subsequently readmitted and stayed on to completion of their treatment. Of 36 patients who had had one or more irregular discharges from other hospitals, all but 7 stayed on till discharged with consent. Rules for the granting of passes to leave the hospital are liberal, and, with infrequent exceptions, these excursions neither arouse anxiety nor are the occasion for acting out of emotional conflicts. Patients on rehabilitation programs enter readily into community activities and make use of community resources; for example, teenagers and adults are enrolled in our public

schools, colleges, and accredited training schools.

2. *A follow-up questionnaire of patients who have been discharged.* Eighty-nine percent of those responding (650) are steadily employed or pursuing their normal activities as housewives, and the list of occupations is a fairly typical cross section, except for the heaviest forms of manual labor. Gone is the concentration on watch repair, wire jewelry manufacture, and the handcrafting of knickknacks generally. Our "graduates" are nurses, cosmetologists, office workers, radio and T.V. repairmen, professional people, and of a great many other occupational categories.

3. *The problems that come to our own intrastaff conferences.* Review of 300 cases presented over the years to the weekly staff conferences shows a steady shift in focus from severe problems of emotional maladjustment and hospital management (though, obviously, these still occur) to planning for rehabilitation, discharge and employment. It is significant that these conferences which for years had been designated "psychosomatic," with the diminution of emphasis on psychopathology, began to be referred to spontaneously and naturally as "patient-planning conferences."

Of course, we do not mean to imply that severe personality problems and psychosocial maladaptations no longer are seen in our tuberculous patients. Nor can we say that when such conditions exist, our program automatically cures them, though, as we have reported previously, we believe our milieu is favorable to correction as well as to prevention. We do maintain that it has become more realistic and useful to regard our patient population as a not untypical cross section of our society, whose tuberculosis can be treated in a setting consistent with our cultural ideals of democracy, reasonable permissiveness, respect for the individual and his right to choose freely his way of life. (In adopting this point of view, we have undoubtedly been aided by the nature of our population. We cannot give a detailed statistical description here, but our population is quite sick physically, below average socio-economically and educationally, but still considerably above that reported from some other institutions, *e.g.*,

the 100 patients in Dr. Holmes' well documented study from Firland Sanatorium).

We shall attempt to summarize here what we believe to be the psychological essentials of the new hospital milieu and some of its consequences :

1. With the discarding of the notion that the disease tuberculosis must be routinely treated by bed rest, it became possible to approach each patient as an individual with a multitude of individual potentials for growth and development. Our patients are up and about; with reasonable administrative restrictions, they come and go freely, not only on the hospital grounds, but in the community.

2. Our hospital is not a "magic mountain." Originally, it stood on the outskirts of the city. Today the city has grown around and encircled it, and there are no barriers between the two—not even a token wall or fence. We have our own movie theater, recreational and, of course, rehabilitation facilities but our patients use town facilities and get to them on regular public transportation.

3. Within the hospital itself, there is a full and natural mingling, as in any general hospital. There are men and women patients on each floor. Except for post-operative and a few other bed ridden patients, meals are taken in a central cafeteria. Because our patients stay for some months and since they are almost all ambulatory, it is natural that an elective patient government shares in the responsibilities of daily life.

4. Chemotherapy, plus a more realistic appraisal of the communicativeness of the tubercle bacillus, make possible the abandonment of protective features that no longer are called for and that were enormously destructive of morale. Gowns and masks and isolation paraphernalia are little in evidence and only when specifically indicated. It is not coincidence that as medicine becomes less preoccupied with the infectiousness and the hopelessness of tuberculosis, the community outside the hospital tends to be less fearful and rejecting of the patients and former patients.

5. When we think of rehabilitation, we think of a patient returning to the community of his choice and to his old job, or

to a better one. The days are past when patients were encouraged to remain under the sheltering aegis of the hospital. Few patients want to, and any who did would have to compete with other available applicants for a given job on a non-preferential basis. It will be recalled that T (treatment factors) in our formula refers to the doctor too, and that here, as in all the factors, we are concerned with an *interaction* with the patient. Who the doctor is, what he does and says, how he is perceived by the patient are all of some consequence. In our 1954 paper we referred to the "over-determinism to the choice of tuberculosis as a profession, just as there is to the 'choice' of tuberculosis as an illness. Many sanatorium staff members have themselves been patients, and one assumes that such factors as the need for a relatively sedentary way of life and reluctance to leave the familiar security of the sanatorium walls play a role here." Some doctors have regarded this experience as a tuberculous patient as a highly desirable qualification for the specialty, and perhaps in other times and other circumstances it was. Adelaide Johnson in her introduction to Wilmer's *This is Your World*(7) writes, "Unless one has had tuberculosis—the author and I belong to the fraternity . . ."

Emotionally, we can help the sick only to the extent that we differ from him. To identify ourselves with him and him with us is to do a disservice to his individuality and to project anxieties and complexes that had better remain our own concern. Of course, the wise and mature physician can avoid these pitfalls, but what then is the special virtue of belonging to the "fraternity"? (The very use of the term perhaps indicates an unresolved secret satisfaction in having been specially "tapped" or chosen.)

No other disease has in the past presented such a massive and complex handicap of chronic invalidism, stigmatization, (or sometimes glamorization), isolation, immobilization, and virtuously imposed utter dependency as tuberculosis. And such were the facts of life in the pre-INH and relatively primitive surgical days that it could scarcely be otherwise.

We have presented a schematized formu-

la for tuberculosis as it has existed, in which 6 noxious variables are recognized. Perhaps nothing can be done about the virulence of the bacillus (V). The number of bacilli (N), at least as applies to total quantity, has certainly diminished enormously with public and individual health measures. Research on the alteration of hypersensitivity (H) goes on and promises much. Destructive environmental forces (E_d) are being attacked in a variety of socio-economic ways. Increasing knowledge and mental health resources are perhaps doing something to diminish destructive intrapsychic factors (I_d). But the real revolution, thus far, we believe, lies in the elimination of treatment factors (T_d) destructive to a normal way of life. The revolution in chemotherapy has liberated the tuberculous patient from an often insoluble dilemma—to live like other people and succumb to the disease, or to live like phthisiologists said a tuberculous person must live and risk crippling degrees of passivity, dependency, isolation and conflict.

In the initial years of the "revolution" we saw it as our role to concern ourselves a great deal with overcoming and altering the ingrained attitudes of staff and patients, both long accustomed to traditional ways of thinking about the treatment of tuberculosis. With passage of time, the acceptance of the rationale of our approach, and the gradual emergence of a new generation of patients and doctors, we are far less concerned with the undoing of old misconceptions(8). What we believe our patients and our staff now learn is not just applicable to the peculiarities of the one disease, tuberculosis. We are much less often concerned today with questions of how to enable patients to accept the *limitations of their disease*, rather than with helping them to overcome the passive dependent *limitations of their personalities*.

This orientation has perhaps been hard on one category of patients. Because we are so much committed to active treatment and rehabilitation, our setting may sometimes be discouraging to patients with drug resistant organisms or to those whose pulmonary or cardiac reserves have reached critical limits. We are not a custodial institution, but even for the hard core of incurable and terminal cases, we believe the philosophy we have described could have value. In such an institution as ours the activity and general program of each patient would be limited only by the exigencies of remaining strength and function, not by an arbitrarily imposed regimen of "rest." The focus would be on maximum liberation and realization of individual potential and creativity—however great or small that might be.

We believe that a successful rehabilitation philosophy can today reject the entity "tuberculous patient" altogether and concern itself, as it does in other areas, with the entity, "human being."

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RELATIONSHIP PROBLEMS BETWEEN CORRECTIONAL AND PSYCHIATRIC STAFFS IN A PRISON HOSPITAL¹

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This paper will discuss some difficulties special to the prison hospital developing a psychiatric treatment program composed of correctional officers and psychiatrists. Methods to resolve these problems have depended upon our seeking to understand the nature and source of conflict between these groups of personnel. Impressions reported here were collected by the writer and his colleagues at the Medical Center for Federal Prisoners in Springfield, Mo., where the writer has been a ward psychiatrist on the maximum supervision wards of the psychiatric service for about 2 years. These impressions should be evaluated in the light of special patient problems we encounter on the maximum supervision wards. Many patients treated on these wards are assault and escape minded in addition to having other symptoms of mental illness; the minority, for example, have been severe control problems at Alcatraz, the maximum security institution of the Federal Correctional System. Because of dangers to correctional and psychiatric personnel in these units, a premium is put on communication among personnel. Conflicts in communications are rather quickly reflected in patient unrest and increased distance and mistrust between the correctional and psychiatric staffs. In our opinion, these treatment units emphasize relationship problems that exist in other areas of the hospital and, by extension, in most areas where medicine operates in a correctional setting.

A division between psychiatry and correction results from an administrative structure that assumes that medical and psychiatric care is independent of custody. This administrative setup preserves the double role of the institution hospital and prison. Patients at the medical center are, for the most part, sentenced prisoners who have become sick during their incarceration.

Some patients, charged with violating a Federal law, are undergoing psychiatric evaluation prior to standing trial. The custody of all patients is regulated by the correctional staff which is a branch of the Bureau of Prisons. Medical treatment is provided for the hospital by doctors of the U. S. Public Health Service who are assigned to the hospital by the Bureau of Prisons. By this arrangement, two separate lines of authority—the Public Health Service doctors and correctional officers—are maintained in the institution. This dichotomy affects each medical service and particularly the psychiatric service. As an example, the Associate Warden for Custody, who heads the correctional staff, and the Associate Warden of Psychiatry, who is the chief of the psychiatric staff, have approximately equal authority, although different responsibilities, in psychiatric care. The Associate Warden for Custody and his staff are mainly responsible for control and security of the institution and for providing ancillary nursing service for the doctors. They wear a uniform and adhere to regulations prescribed by the Bureau of Prisons. Supervisory staff members, including the Associate Warden for Custody, a captain, and eight lieutenants have usually risen in rank at a regular institution before coming to the prison hospital. In contrast, the psychiatrist often has had no previous experience at a regular correctional institution. His uniform and most of his regulations are primarily those of the Public Health Service.

This parallel arrangement of correction and psychiatry in the prison hospital poses certain challenges to a team treatment program. A coordinator of the treatment program does not prominently emerge in the prison hospital where the correctional staff has authority and responsibility in patient management that is separate from that of the medical staff. Cooperation between these two groups of personnel comes about when each voluntarily consents to the wishes of the other. This is in contrast to the medical hierarchy found in most mental

¹ Read at the 117th annual meeting of The American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

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hospitals, in which nursing personnel is more strictly subordinate to the doctor. While it behooves the psychiatrist regardless of where he works to understand and resolve problems between himself and personnel, his doing so in the prison hospital is particularly crucial. Here medical and correctional disciplines can pursue their own individual approach to patients, a condition which readily results in cross purposes in the treatment program. In our opinion, the psychiatrist must first understand the factors that perpetuate cleavage between himself and correctional officers before he can find a way to promote effectively team oriented treatment.

Conflicts arise between the two staffs over their different methods in treating and evaluating prisoner patients. The psychiatrist is concerned with treating their mental illness, using techniques developed in the traditional mental hospital. The correctional officer relies on methods taught him in the regular correctional institution for managing and controlling prisoners. Correction depends primarily on a system of rewards and punishments, together with active work programs and counselling with the prisoner. Discipline takes the form of reprimand, removal of privileges and segregation. "Good behavior" is rewarded by more privileges and greater freedom in the institution. The correctional officer believes that prisoners who are constructively occupied—in work and school, in vocational, recreational and religious activities—are less likely to be antisocial both in prison and afterwards. He promotes and supervises these programs. He reflects in his attitude toward the prisoner the widespread attitude of society that prison is to punish as well as to rehabilitate. Almost constantly playing some part behind the correctional officer's attitude to the prisoner is his need to calculate the prisoner's dangerousness to him. He is constantly aware that he is running a society of antisocial people which is aggressive toward his authority. His reaction to threat from prisoners is to increase his control over them by rearranging their limits, withdrawing their privileges and increasing their supervision. The correctional officer often feels a need to increase his control over prisoner patients in the prison

hospital because here he is dealing with antisocial people made more unpredictable, more of a custody hazard by reason of their mental illness. The correctional officer often stresses to himself the "badness" of these people since they require close control, a sign of the prisoners' "badness" in the regular institution. The patient himself often wants to be considered "bad" rather than "sick" probably as an alloplastic defense against the more urgent threat of mental disorganization. This "badness" factor may cause the correctional officer to question the need these patients have for psychiatric supervision since they seem to be asking more for the officer's protection than for medical treatment.

The psychiatrist, too, like the correctional officer has been trained to maintain a close, almost inviolable relationship with his patients. In the traditional mental hospital he shapes their programs, directing all phases, including the attitudes nursing personnel will take towards patients. He may require nursing personnel to be permissive or "giving" towards patients, who, by common sense standards, may not have earned this kind of treatment. His direction of treatment is based on specialized, medical knowledge that stresses the symbolic meaning of behavior. In the prison hospital, the psychiatrist's situation changes radically. He finds himself having to share patient management with non-medical personnel whose attitudes towards the management of prisoner patients often differ from his own. In addition, non-medical personnel can block the doctor's treatment methods to facilitate their own correctional status. This change in situation may leave the psychiatrist feeling stranded and therapeutically disarmed in the prison hospital and particularly in his relationship with correctional officers. Both psychiatrists and correctional officers may use the dichotomy of services to avoid difficulties in working closely together. Each, by staying in his own service, can maintain his own autonomy, seemingly unencumbered by pressures from the other. The psychiatrist can retreat to his office where he treats patients, aware and perhaps reassured that correctional officers are nearby, but not considering them active members of the treatment team. The cor-

rectional officer can guard ward perimeters assigned to him with the sole purpose of doing this and little else in the treatment plan. This withdrawal is, in effect, a defensive reaction.

The correctional officer retreats from the psychiatrist, spending most of his time as a guard, when he fears that the psychiatrist will jeopardize custody through his treatment procedures. The officer has several reasons to fear that the psychiatrist will do this. The psychiatrist may have had little prison experience. His medical role may ally him more with patients hostile toward their custody than with the correctional officer. The correctional officer may question the psychiatrist's need to be custody minded since the responsibility of custody is the officer's, not the doctor's. It is the officer who puts down institutional disturbances, often by risking his personal safety, who suffers consequences in job status for escapes and other disruptions in custody. The officer, therefore, may fear that the psychiatrist will "go too far" or "try things" with patients that jeopardize custody because he does not understand the officer's responsibilities. The correctional officer may also resist his role of being a psychiatric aide since this involves his getting close to patients and exposing himself to their manipulations which he may not be sure he can handle. For any of these reasons the correctional officer may consider himself to be in almost constant struggle with the psychiatrist to maintain safe limits for the prisoner patients.

Although the officer's mistrust of the psychiatrist may be justified by the psychiatrist's lack of experience in both prison work and in psychiatry, it may also reflect guilt feelings the officer develops towards his suppressive role in the prison hospital. He may act punitively toward patients who are antagonistic to his authority. Guilt feelings may lead him to attribute to the doctor his own forbidden wish to reject the prison role that denies privileges and keeps people against their will. If this happens, an image of the doctor as being one who is excessively permissive with patients becomes enlarged in his mind causing him to withdraw from the doctor, or, rather, from the threat the doctor comes to represent to custody.

He may also react to guilt feelings by developing a sense of shame towards his job. He may devalue himself by referring to himself as a "hack," or a "screw," or by seeing himself as an unwanted layman in a medical program.

Many of the factors that perpetuate distance between medical and correctional staffs are reciprocal. Doctors may react negatively to the correctional officer out of a need to conceal their own feelings of deficiency. Many of the doctors who serve as psychiatrists at the medical center have just graduated from their internship. They often lack training to understand psychiatric treatment and especially the importance of the team relationship. They may have great difficulty in handling their own insecurities as well as those of the correctional officer. Since assignment to the psychiatric service is often not their own choice, doctors may express resentment towards their work, toward the specialty of psychiatry and particularly toward prison psychiatry because of the additional stress it places upon them. Role rejection on the doctor's part may be expressed as rejection of the correctional officer, who is indistinguishable from the prison system. The psychiatrist may resist identifying himself with the correctional staff because of the punitive qualities it represents to him. He may also try to rid himself of his own punitive feelings toward patients by ascribing these feelings to the correctional officer whom he then rejects. Other problems the psychiatrist faces in the prison hospital may cause him to resent the institution and, inadvertently, blame the correctional officer for his frustrations. The psychiatrist's need to accommodate treatment to the rigid limits of prison and sentence, his lack of communication with the patient's family and community and thwarted desire to test the patient's recovery by providing him with limited exposure to society—these are some of the difficult problems the psychiatrist falls heir to in the prison hospital which he may attribute to the correctional administration.

Ways will be briefly described by which the writer and his colleagues have tried to apply these observations in forming a team relationship with the correctional staff in a maximum security service of the prison hos-

pital. The approach has been directed toward satisfying one of the major wants expressed by correctional officers to us, that is, wanting to actively participate in treatment, and, as corollary to this, not wanting their participation to interfere with the security of the institution. Our first aim then was to let the officers know that we, as psychiatrists, were not separate from or opposed to custody. We tried to do this by training ourselves in custodial methods so that we could consult with officers about custody and help them direct custodial procedures. We began calling patients by their last names, without the "Mr.," as officers are trained to do, so that we could be identified as a team unit with them. It is revealing that prison protocol allows the doctor to call the patient "Mr." while not allowing the correctional officer to do this. The correctional officer usually does not want to call patients "Mr." for fear this would reduce his authority and control towards them. In essence, by becoming custody minded, we tried to make it easier for the correctional officer to identify with us and to see his functions as inseparable from the treatment program.

Efforts to allay the officers' fear that psychiatry might subvert their control functions have taken many forms. Only a few brief examples will be given. We proposed to officers that major treatment decisions, at least at the ward level, would be made only with their approval and expressed willingness to participate in them. Decisions in the treatment of patients who are considered particularly dangerous to institutional security or who present other special treatment problems are made in weekly staff meetings. These meetings are attended by the chiefs of correction and psychiatry, ward doctors, officers and other personnel concerned with the patients. All attending share in making decisions. Continuous training courses taught by the psychiatric staff provide correctional officers with basic psychiatric instruction while giving officers an opportunity to express their views about psychiatry. Ward meetings with permissive exchange of ideas between ward doctors and officers have been effective in breaking down emotional barriers between them.

During these meetings we and the officers have often been preoccupied with the concept of punishment, defining it and discussing its function. We have acknowledged to ourselves and with the officers that this is a highly controversial subject. At the same time we have presented such viewpoints as these: that the psychiatrist uses certain approaches to the patient (which are clearly described to the officers) because we think that they generally work better than punishment in terms of the patient's total rehabilitation. We distinguish between control and punishment. The psychiatrist would not be adverse to the use of punishment if he thought it helped sick people get well. If he thought so, he would use physical hurt (and has done so in the past, e.g., "Scotch Douche," "bleeding") in probably more ingenious and cruel forms than the officer might be able to imagine quickly. The psychiatrist, as a medical doctor, is familiar with the infliction of physical pain, even physical mutilation, in order to attain what he considers to be long range beneficial effects for his patients. He still puts electrical current into his patients' brains, even occasionally cuts out pieces of their brain to accomplish a desired effect, just as a surgeon may use evisceration operations on certain patients to palliate the effects of cancer. We have emphasized that we do not try physically or mentally to harm our patients because this often teaches them to "hurt us back" thereby increasing their risk to institutional personnel and poorly equipping them for institutional and extra-institutional living. Again, we do not oppose punishment of patients merely from the point of view that punishment is "bad" as we do from the point of view that it probably increases the problem it is supposed to solve.

Appealing to the officers' need for security, we have emphasized to them that good communications between officers and doctors increases institutional safety by informing personnel of what the patient is doing and thinking and by letting the patient know that his treatment is a team endeavor.

As these examples imply, our initial attack on the problem of communication between officers and doctors, our entree into the treatment situation, was gained by let-

ting the officers know we could speak their language, shared their concern about custody and furthermore that we saw the good practice of psychiatry as being part and parcel of a sound and logical approach to custody. Once we made this entree, we and the officers felt more comfortable in discussing some of the finer ramifications of treatment knowing that our goals in treatment were complimentary.

While we believe the correctional officer has tended to change his view of us, we have been doing the same towards him. We have found, in general, that the stereotype of the mechanical, unfeeling guard does not exist. Most correctional officers at the medical center are intelligent, well-educated persons. Some have college degrees and many have done some college work. They usually want to learn more about psychiatry to increase their job satisfaction and self-assurance by having better psychological control over the patients they manage. As the program described in this paper has developed, correctional officers have tended to increase their participation with the psychiatrist both in meetings with him and in their therapeutic efforts with patients on the wards. They have tended to look more and more to the psychiatrist for treatment and custodial decisions, often recognizing that custody is part of treatment and depends on the total hospital program for its success.

Our efforts to create closer team relationships with correctional officers have also been facilitated by staff conferences and less

formal meetings in which we have discussed our anxieties towards the prison hospital and the effect these feelings have on our relations with officers and patients. Regular meetings with visiting consultants from a nearby training center and with psychiatrists in private practice in Springfield have provided us with new ideas to stimulate our thinking about ourselves and personnel with whom we work.

SUMMARY

This paper has tried to describe a dichotomous relationship between correctional and psychiatric staffs in a prison hospital. Our efforts have been directed towards understanding and fulfilling some of the needs we and correctional officers have while working together in such an institution. With resolution of some of these conflicts, we have moved toward a more integrated approach to the treatment of patients, under direction of the psychiatrist, in an administrative setup which starts out as being a more rigid dichotomy of responsibility.

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PATHOLOGIC REACTIONS OF MARITAL PARTNERS TO IMPROVEMENT OF PATIENTS¹

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Psychopathologic interactions in marriage have been observed and described by numerous investigators. However, little attention has been given to those specific situations wherein a patient's clinical improvement or recovery itself precipitates a pathologic reaction or psychiatric illness in his marital partner. During a period of 10 years (1950-1960) the marital partners of 39 inpatients, treated at the Payne Whitney Psychiatric Clinic of New York Hospital, were observed by the writer to demonstrate such reactions. In all cases it was necessary to include both partners in the total plan of treatment before the patient's improvement or recovery could be achieved and maintained. In view of their relative frequency and the complexity of their therapeutic management, all reactions were studied with regard to type and the therapeutic setting in which they occurred.

Recent psychiatric literature contains numerous references to the occurrence of pathologic interactions in marriage. Laidlaw(1) states that treatment of one partner may be interminable due to the sabotaging action of his sicker partner. Gralnick(2) observed that neither partner bears the entire responsibility for the illness. Mittlemann(3) concluded that in most prolonged neuroses complementary reaction patterns develop between individuals in intimate relationships and that treatment of married couples by the same analyst makes more concrete the neurotic interaction between them. Appel and his co-workers(4) note that the time-honored model of a one-to-one therapeutic relationship is yielding to a broader point of view and that the marital problem is dealt with more effectively when the couple is treated as a unit by one therapist. Carroll(5) stresses the need to

recognize family rather than individual illness and finds it incongruous that psychiatrists should rely upon a patient's account of the interactions with members of his family and at the same time avoid the opportunity for first hand observations of these transactions. Carroll also states that when marital partners are brought into the therapeutic setting together, the hidden and disguised aspects of their personalities become more apparent to the therapist and as a result are brought unavoidably to the attention of the couple themselves.

Kubie(6), on the other hand, contends that it is unwise to carry on simultaneous treatment of both husband and wife by one analyst but finds that in preparation for psychoanalysis both partners can sometimes be handled more effectively by the same psychiatrist. "When confronted with a marriage crisis it is hard for the analyst to decide whether or not to undertake an analysis at all, since no matter how successful the analysis may be for the one who accepts his own need for treatment, the outcome of the marriage will depend, at least in part, upon the ultimate attitude of the unanalyzed partner as well as upon that of the patient." Grotjahn(7) emphasizes the need to include in treatment those persons who are close to the patient and concludes that analytic group psychotherapy has specific therapeutic potential for the treatment of complementary neuroses in marriage. He recommends that more time be given in treatment to the marital partner of the patient, a practice which has long been established in the simultaneous treatment of children and their parents. Moreno(8), Bird and Martin(9), Wolf(10), Ackerman(11) and others have also made valuable contributions to psychoanalytically oriented group therapy of marital partners.

CLINICAL DATA

The patients and their spouses included in this study ranged in age from 25 to 64 years and were married for periods of 2

¹ Read at the 117th annual meeting of The American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

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to 33 years. Twenty-one of the patients were male and 18 female. Twenty-six were treated for depressions of various types; 7 for paranoid schizophrenic illnesses; 4, for alcoholism; 1, for drug addiction; and 1, for a manic excitement. In all cases the marital partners displayed the first observable signs of psychopathology at a time when the patients were regarded as showing symptomatic improvement or obvious progress in psychotherapy. These reactions constituted serious obstacles to the patients' recovery or occurred as illnesses severe enough to necessitate active treatment. It was not uncommon or surprising to find that the less sick marital partners had been the first to seek treatment voluntarily but without awareness of the pathologic nature of their marital adjustment.

At the time of the patient's admission to the hospital both partners commonly denied that marital conflict was of etiologic significance and attributed the patient's illness to factors exclusive of the marital relationship. This tenet was further supported by their emphasis upon the "ideal" nature of the marriage and the desire for symptomatic relief without alteration of the marital *status quo*. Mutual denial of resentment or hostility was particularly noteworthy. However, veiled resentment toward the therapist was often noted when he attempted to elicit possible sources of marital conflict. The suspicion or fear that psychotherapy might destroy the marriage was also frequently expressed at this time. Even when the initial history suggested that the patient's illness was precipitated by marriage and that the well-being of one partner was related to or dependent upon the illness of the other, the existence of marital conflict was vehemently denied. Thus, the conditions under which treatment was first accepted often constituted an important therapeutic clue, regardless of the patient's psychopathology or diagnosis.

All marital partners appeared at first to be objective and optimistic and were cooperative in treatment, regardless of the patients' objections. In those cases where the patients had failed to respond to previous, intensive, ambulatory psychotherapy which totally excluded the marital partners, it was not uncommon to find that the latter

had regarded the previous therapists with resentment and suspicion.

Unawareness or denial of marital conflict at the time of admission to the hospital is illustrated by the following:

A 57-year-old, successful inventor had been under intensive psychotherapy for a neurotic depression of 2 years' duration. Hospitalization was eventually indicated by increasing hypochondriacal fears and suicidal preoccupation. In spite of the fact that the marriage was described as "ideal" by both partners it soon became apparent that an unconscious struggle for dominance existed between them. Little progress was accomplished until after the therapist had interviewed the patient's wife and had commented on her over-aggressive personality. The patient reacted to this comment by hostility and denial, but after several interviews recognized for the first time feelings of resentment derived from his own passivity. As these feelings were openly expressed there was a lifting of his depression but his wife in turn became depressed and for the first time defiantly participated in an extramarital affair. At this point and contrary to her previously expressed opinion, she likewise revealed long standing resentments toward her over-dependent husband. Treatment of both partners was undertaken thereafter by 2 staff psychiatrists and stabilization of the marriage was eventually achieved. However, the previous neurotic relationship persisted, but without clinical evidence of illness.

Treatment of marital partners was either indicated by the need to counteract their resistance to the patient's improvement or by the need to relieve them of their own symptomatology. In some cases one therapist was able to treat both partners simultaneously. In most instances, however, this was accomplished by the cooperative efforts of the patient's therapist and his supervising psychiatrist. Working together within the setting of a teaching hospital made it possible for both partners to undergo treatment by 2 therapists who were in frequent contact with each other as well as with the patient. Joint interviews involving the patient, his marital partner and the therapist were also effectively utilized.

Excessive drinking by 5 of the marital partners was a recurrence of behavior which appeared to have been well controlled during the period of the patients' illnesses.

The threat of divorce, however, occurred unexpectedly for the first time in 12 cases and resulted in an acute exacerbation of the patients' symptoms or premature termination of treatment. Four of these 12 marriages are known to have been terminated by divorce.

The well-being of one partner was frequently observed to be directly related to the illness of the other :

A 52-year-old banker was admitted to the hospital for treatment of alcoholism of 5 years' duration and accepted treatment primarily because of his wife's threat of divorce. When he displayed signs of improvement his wife reacted by elation and proceeded with unrealistic plans to travel abroad. Just before her return, the patient was discharged and successfully continued to abstain from alcohol. Although pleased by his progress, the patient's wife gradually became depressed and eventually was admitted to the same hospital following a suicidal attempt. Further investigation revealed that similar interactions had been frequent in the past. In view of this history, both partners were seen in joint interviews and eventually were able to discuss their marital conflicts openly for the first time in the presence of and under the guidance of the therapist. Understanding and tolerance resulted in symptomatic recovery of both patients who were referred thereafter to different therapists for continued intensive treatment on an ambulatory basis.

The marital partners of 4 of the 7 chronic, paranoid schizophrenic patients became acutely anxious and depressed in direct response to their improvement. Such reactions appeared to be a result of their growing awareness of the patient's psychopathology as it existed prior to the onset of the acute phase of their illnesses, and to their own reluctance to resume marital relationships found to be unsatisfactory for the first time. Three of the 4 divorces mentioned above occurred in this group.

A 35-year-old wife of a lawyer with 3 children was admitted for treatment of what was described by members of her family as an acute psychotic illness of brief duration. Her many assets and accomplishments were stressed by her seemingly devoted husband who was cooperative throughout her acute illness. He was seen, however, in frequent therapeutic interviews by the supervising psy-

chiatrist for the purpose of alleviating mild symptoms of anxiety and depression which did not become acute until the patient displayed the first signs of improvement and when plans for her eventual discharge were discussed. It was at this time that he first expressed his unwillingness to continue a marital relationship which he now recognized as having always been pathological and harmful to his children. During joint interviews with the patient, her husband and the therapist, it became increasingly apparent that the patient had been chronically ill throughout the 10-year-period of the marriage and that it was not unreasonable for her husband to resist her discharge from the hospital. Due to the chronicity of her illness and its poor prognosis the patient was certified and transferred to another hospital, and the marriage was eventually terminated by divorce.

Twenty-one of the marital partners included in this study reacted to the patients' improvement by depression and acute anxiety and in 4 instances by unsuccessful suicidal attempts. It was in these cases that the complementary nature of both partners' illnesses was most apparent. The previously passive and submissive partners appeared to be reluctant to relinquish their dominant roles gained for the first time through the patients' illnesses. On the other hand, the aggressive partners appeared to be unwilling to relinquish their long established dominant roles at a time when their over-dependent spouses displayed the first signs of healthy aggression and expression of resentment.

An ambitious 29-year-old wife, of a business executive who was admitted to the hospital for treatment of a manic excitement, described her marriage as "ideal" but at the same time expressed relief upon being able to assume an independent existence during her husband's confinement to the hospital. She also confessed that she was prepared and eager to assume directorship of his corporation if he failed to recover. In spite of his lack of cooperation and threats of divorce she fully supported his treatment. Only when the patient displayed encouraging signs of improvement and increasing confidence in his therapist did she react pathologically by depression, acute anxiety and indirect criticism of the therapist. Through intensive treatment both partners were eventually able to make effective com-

promises and to establish a more mature marital adjustment.

The occurrence of complementary illnesses in marriage is well illustrated by the following case :

A 64-year-old author became depressed in the setting of an acute physical illness of his congenitally crippled wife, who was also an author. His depression was apparently precipitated by a surgeon's claim that he would "make a new woman of her." The patient's reply was that if any such change took place, he himself would become ill. As his wife improved the patient became depressed and was admitted to the hospital following a serious but unsuccessful suicidal attempt. The patient made little progress in psychotherapy until he became aware of his intense feelings of resentment related to his dependency upon his domineering wife and his feelings of inferiority related to her greater success as an author. As the patient improved and asserted himself aggressively, his wife in turn sustained a depression which she attributed to intolerance of her husband's new found independence. Intensive treatment of the patient's wife was undertaken by the supervising psychiatrist and as a result both marital partners became asymptomatic with the recognition and acceptance of their interdependence and consequent mutual hostility as a major source of their complementary illnesses.

The marital partners of 5 of the depressed patients reacted to their improvement by an unexpected display of hostility toward the therapists. Such reactions occurred when these patients first became aware of and openly expressed feelings of hostility toward their partners upon whom they were over-dependent.

A 38-year-old passive, dependent physician was admitted to the hospital for treatment of recurrent depression, impotence, excessive drinking and duodenal ulcers of 10 years duration. His illness had its onset subsequent to marriage to a domineering, aggressive divorcee whose first husband had been a chronic alcoholic. In spite of the fact that the patient had undergone intensive dynamic psychotherapy for 6 years he had little understanding of his illness as it was related to marital conflict. While describing the marital adjustment as "satisfactory," his wife at the same time portrayed her husband as over-dependent and lacking in masculinity. She stated that she had

spent 10 years, including 3 years of psychoanalytic treatment, adjusting to her husband's neurosis and would not tolerate any interference with the success of her adjustment. When it was suggested that her husband's illness might be related to unresolved marital conflicts and that his recovery depended upon her cooperation, she reacted by hostility toward the therapist and compared him unfavorably with her husband's previous therapist with whom she had had no contact. When the patient failed to make progress and showed persistent self-depreciation and suicidal ruminations, electroconvulsive therapy was prescribed and accepted by the patient. His wife, however, attempted to block such treatment but reluctantly consented to its use under pressure from friends and relatives. As the patient's depression lifted she became increasingly anxious and depressed and on one occasion brought alcohol to the patient knowing that it was medically contraindicated. When the patient was well enough to leave the hospital and return to work she threatened him with divorce but at the same time requested and resumed treatment for a recurrence of her previous depression. Both partners eventually became more aware of each other's neurotic needs and consequently were better able to profit from continued intensive, dynamic psychotherapy on an ambulatory basis.

DISCUSSION

Four major types of pathologic reactions of marital partners were found to occur in response to patients' improvement: 1. A recurrence of alcoholism after a prolonged period of abstinence; 2. Threats of divorce; 3. Resentment expressed toward the therapist as well as toward treatment itself; and 4. Depression associated with acute anxiety. All reactions constituted resistance to the patients' recovery and the consequent resumption of the pre-illness marital relationships. When such resistance was not dealt with successfully through active and aggressive analysis, the marital partners became clinically ill or treatment of the patients was terminated prematurely (12). In all 39 cases concurrent treatment of both partners was indicated and undertaken either by one therapist or by 2 therapists who were closely associated with one another as well as with the patient. When the pathologic reaction of a marital partner appeared to be primarily an uncon-

scious effort to sabotage the patient's therapeutic progress the situation was more effectively managed by one therapist who could directly observe the pathologic aspects of the marital interaction. On the other hand, when both partners were regarded to be clinically ill the therapeutic situation was more effectively managed by 2 closely related therapists, who independently assumed responsibility for the treatment and recovery of their individual patients.

Joint interviews not only enabled the therapist to gain a fuller understanding of problems of communication and the complexities of the marital relationship but also offered both partners the opportunity to express their mutual resentments for the first time in a controlled manner. Joint interviews were effective only when both partners were well-motivated with regard to continuation of the marriage and when the therapist was not prejudiced by his own counter-transference through identification with his patient.

Those patients who failed to respond to intensive psychotherapy prior to admission to the hospital were usually found to be passively dependent and lacking in sufficient ego strength to cope with the destructive influence of their aggressive, untreated spouses. A struggle for dominance between aggressively independent and passively dependent partners was found to be the most common dynamic factor in the treatment of complementary illnesses in marriage. Achievement of independence and the growing awareness and expression of resentment on the part of a passive patient commonly gave rise to a critical phase in treatment. Only when the spouse was prepared to accept as well as welcome resentment as a healthy sign of improvement was it possible to counteract his resistance to the patient's recovery.

The findings of this study suggest that mutual denial of marital conflict at the onset of treatment constitutes an indication for early inclusion of the marital partner in the total plan of treatment. The serious consequences of premature termination of the patient's treatment or the development of a serious illness in the marital partner might thus be avoided. When pathologic reactions

of marital partners appear to be complementary, the patient's therapist must give due consideration to his responsibility for the well-being of the untreated partner also.

SUMMARY

During the past 20 years there has been an increasing number of reports concerning treatment of the family rather than treatment of the individual exclusively. The importance of treating the marital partner as well as the patient is emphasized in the present study by the relatively frequent pathologic reactions of marital partners to patients' improvement or recovery. Just as a patient's failure to respond to treatment may give rise to anxiety, guilt or hostility in his marital partner, so may his improvement lead to similar pathologic reactions. Treatment of the marital partner as well as the patient is indicated when the former reacts to the patient's obvious progress by resisting his improvement or by development of a clinical illness. In such cases the well-being of one partner appears to be directly related to the illness of the other and it is not uncommon to find that the less sick marital partner is the first to seek treatment voluntarily. Such pathologic reactions are often predictable and when so, treatment of the marital partner should be instituted as early as possible. The success or failure of the patient's treatment is dependent upon the therapist's ability to deal effectively with both the conscious and unconscious hostility of the marital partner, his resistance to treatment and recovery of the patient, his dependence upon the existence of the patient's illness and the occurrence of his own pathologic reaction to the patient's improvement. The occurrence of specific pathologic reactions by marital partners to patients' improvement or recovery affords an excellent opportunity for further investigation of the etiology and treatment, as well as the prevention of complementary illnesses in marriage.

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CLINICAL NOTES

(The Clinical Notes report the findings of the authors and do not necessarily represent the opinions of the Journal.)

PARENTERAL MAGNESIUM IN THE PROPHYLAXIS AND TREATMENT OF DELIRIUM TREMENS¹

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A depressed serum magnesium level(1), low intracellular (red cell) magnesium concentration(2) and a positive magnesium balance(3, 4) have been shown to be present in chronic alcoholics. Furthermore, the syndrome associated with magnesium deficiency(5) is similar to that found in delirium tremens. These findings suggested the addition of intramuscular magnesium sulfate to the basic treatment of the acute brain syndrome in chronic alcoholics.

METHODS

Fifty male chronic alcoholics admitted consecutively during three months in 1961 to the psychiatric service primarily for present or imminent acute brain syndrome attributable to alcohol were included in the study. This procedure was followed because most alcoholic patients coming to this hospital, although not hallucinating on admission, developed hallucinations and delirium tremens within a short time.

The basic treatment for all patients in the study consisted of: 1. Promazine—100 mgm. intramuscularly q.4h. for 4 to 6 doses; then 100 mgm. orally q.i.d., reduced after 24 hours to 50 mgm. q.i.d., continued until asymptomatic; 2. B. Complex—a potent preparation given orally t.i.d.; 3. Added liquids, particularly fruit juices; 4. General diet as tolerated.

The patients were then divided into two groups by alternate selection, receiving 50% aqueous magnesium sulfate and normal saline placebo respectively. A double-blind

technique was used throughout the study. Two cc. of the assigned test solution was given intramuscularly q.4h. for 4 to 6 doses followed by 2 cc. q.i.d. for an additional 24 hours.

The presence of hallucinations was found to be the most easily evaluated criterion in determining the condition of the patient. The patients were evaluated on admission, one day later, and the following day. If the patient at any time showed evidence of complicating illness, particularly infection, or if fluid intake was not adequate, he was transferred from the psychiatric to the medical service. He was then removed from the study and considered a failure for the test solution to which he had been assigned. In addition, if the patient was still hallucinating two days after admission, he was also considered a failure, removed from the study and other treatment begun. If a relapse occurred at any time during hospitalization, the case was listed as a failure throughout, regardless of any temporary improvement noted at previous examinations. Thus, a successful response to medication was considered present when, at the time of evaluation, the patient was able to continue treatment on the psychiatric service, was not hallucinating, and did not subsequently have a relapse.

RESULTS

The day after admission, 19 of the 25 patients receiving magnesium had a successful response as compared to 8 of the 25 in the placebo group. This yielded a chi square statistic with a probability of $<.01$. Two days after admission, 21 of the 25 patients receiving magnesium had a successful response as compared to 12 in the placebo group. This yielded a chi square statistic

¹ We gratefully acknowledge the advice of Dr. Paul Schneller in the formulation of this paper.

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with a probability of $<.02$. There were 9 patients who required transfer to the medical service, 3 of whom received magnesium and 6 placebo. Convulsions occurred in only 5 patients. These numbers are not significant statistically. There was no mortality.

Of the 50 cases studied, 38 were not, on admission, hallucinating. For these, treatment could be considered prophylactic as regards delirium tremens. The remaining 12 were hallucinating on admission and could be considered as a treatment group.

Of the 38 in the prophylactic group, 22 were assigned to magnesium and 16 to the placebo. Of the 22 receiving magnesium, 17 had a successful response one day after admission, not developing delirium tremens, as compared to 6 of the 16 placebo patients. This yielded a chi square statistic with a probability of $<.03$. Two days after admission, 19 receiving magnesium had a successful response, as compared to 7 receiving placebo, yielding a chi square statistic with a probability of $<.02$.

Unfortunately, only 3 of the 12 patients

in the treatment group were assigned to magnesium, thus giving a disproportionate balance between the groups and rendering the results of no value statistically.

CONCLUSIONS

In chronic alcoholics, parenteral magnesium sulfate is of value in the treatment of severe acute brain syndrome attributable to alcohol. Its value is particularly apparent in preventing the development of delirium tremens in those patients who were not hallucinating when admitted.

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THE EMPLOYMENT OF PATIENTS AS FULL TIME EMPLOYEES

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There has been a traditional reluctance, amounting at times to a taboo, to hire former patients as full-time employees on the hospital staff with all the rights and privileges pertaining to full-time employment. Fortunately, there have been exceptions in recent years and an increasing awareness that there are advantages to such employment which benefit both employee and employer.

In July of 1955 we instituted the policy of employing patients as full-time employees at the hospital. During the past 6 years 25 former patients have been placed directly on our full-time staff in the following employment categories : Physicians, 2 ; Registered Nurses, 2 ; Secretaries, 9 ; Industrial Therapy Aide, 1 ; Recreational Therapy Aide, 1 ; Occupational Therapy Aide, 2 ; Psychiatric Aide, 1 ; Housekeeper,

2 ; Clerk, 1 ; Laborers, 3 ; Plumber, 1 ; Total, 25.

Of these 25 patients, 7 have had to revert to patient status over the years. Of these, 1 is again a hospital employee, 3 are inpatients at this hospital, 2 have been hospitalized elsewhere, and 1 is at home. Of the remainder, 14 remain on our payroll as full-time employees, 3 are employed elsewhere, and 1 died while employed at this hospital.

At the time of their admission all these employed patients were certifiable under the Mental Health Act of the Commonwealth of Pennsylvania and they represented a wide range of diagnostic categories. Incidentally, for protection of the employee, the clinical records, and other pertinent data, such as commitment papers, social service files, etc., are transferred to a locked file in the Clinical Director's office at time of employment and remain there permanently.

We have found no real disadvantages,

¹ Respectively, Embreeville State Hospital, Embreeville, Pennsylvania.

embarrassments or contentiousness over the hiring of these former patients. On the other hand, the advantages have been well appreciated and accepted :

1. We are better aware of the intellectual capacities, emotional problems, and aptitudes of these persons at the time of employment than we can possibly be of persons coming to us from other sources. As a result we can make better work placements with more assurance of a successful adjustment.

2. Should these employees seek employment elsewhere they can cite the hospital as a current place of employment rather than as a place of confinement for mental illness. With the patient's consent we will contact the prospective employer, explain the situation and give a reference based on our ex-

periences. Thus far, this has not been a bar to employment in any instance.

3. In asking the public to accept other hospitalized patients for employment we are not in the untenable position of not doing so ourselves.

4. The morale of other patients is noticeably and favorably affected when they are aware that the hospital will employ a certain number of patients on an equal basis with other employees.

5. The patient population affords a pool of employable people, particularly in areas where competition on the basis of salary is keen.

In summary, our experiences over 6 years of transferring 25 patients to full employee status has been rewarding to both the patients and the hospital staff.

APPLICATION OF AN OBJECTIVE METHOD FOR MEASURING THE ACTION OF "ANTIDEPRESSANT" MEDICATIONS

GORDON W. OLSON, Ph.D.¹

METHOD

Ninety patients considered to be depressed by their ward physicians were consecutively assigned to : a physician's choice group (PC) which received any treatment except antidepressant medication ; a low dosage group (Lo) which received nialamide up to 100 mg. per day ; a high dosage group (Hi) which received nialamide at some point attaining 300 mg. per day. The study covered 8 weeks during which subjects were dropped if either their physical or mental condition worsened and could not be improved by dosage manipulation.

The sample contained 77% psychotic, 12% neurotic and 11% "other" diagnoses. The age range was 20-71 with a mean of 47 years. Evaluations were obtained prior to treatment and following one and two months of medication, and each consisted of two measures whenever possible.³ First, depression was measured by a self-report from the patient in the form of the score on the D scale and, second, ward behavior was rated

Realistic appraisal of the recently marketed "psychic energizers" requires an objective measure of depression to avoid the subjective overenthusiasm for new therapies. Since time and staff are usually limited the measure should be short and easy to administer, characteristics of the D scale of the MMPI which was designed to identify the "state of mind characterized by poor morale, lack of hope in the future, and dissatisfaction with one's own status generally" (1). Several studies have attested its validity and a pilot investigation by the author provided justification for employing it independently without administering the entire personality inventory (2).

This study applied the D scale to the evaluation of nialamide,² selected because it purportedly relieves depression accompanying disorders which constitute the bulk of state hospital populations, i.e., schizophrenia, affective psychosis and the chronic brain syndromes.

¹ Anoka State Hospital, Anoka, Minn.

² Supplied for this study by Pfizer Laboratories as Niamid.

³ Keyed copies of both measures are available upon request.

by the nurse. The ward rating form has a range of 0-40 but, contrary to the D score, a high ward rating score is favorable.

RESULTS AND DISCUSSION

Physical complications in the Hi group included skin rash, headache, dizziness, tinnitus, weight loss and tachycardia. Complications in the Lo group included "swollen eye," insomnia, bladder infection, and dermatosis. One death occurred in the Lo group due to cardiac failure in a long term tubercular patient. A second death was due to a cerebral vascular accident in an 83-year-old female in the PC group receiving chloral hydrate. Six manifestations of hyperactivity occurred in the Hi group which in combination with a greater incidence of physical difficulties resulted in only 16 subjects completing that series while 26 finished in the PC group and 24 in the Lo. All side effects were deemed reversible by the ward physicians.

Counterbalancing greater attrition in the Hi group was the significantly greater behavioral improvement of the Hi completors over the others. The mean gain in ward behavior for the Hi completors was 5.50 as opposed to .96 for PC and a mean loss of .50 for Lo ($p < .02$). Greatest improvement was in the areas of Sociability, Interest, Activity Level and Cooperation. Of 11 subjects in the Hi group rated prestudy as "inactive," 8 were rated "normally active" on completion; 2 became "overly active."

Decreases in the mean scores of the D scale also favored the Hi group to a significant degree. The mean changes of D scores

for the PC, Lo and Hi groups were -1.4, -1.8, and -6.9, respectively. Analysis of variance revealed the decrease of the Hi group to be significantly greater ($p < .001$).

From these results it is concluded that 1) the D scale has utility as an independent measurement tool and 2) nialamide in large dosage was effective, as demonstrated by two objective measures, in depressed and apathetic patients able to tolerate high doses.

SUMMARY

Most investigations of "antidepressant" medications have depended on clinical assessment of the symptom. This study undertook to apply an objective measure of depression to determine the effectiveness of nialamide, as representative of monoamine oxidase inhibitors, in a state hospital population.

The results showed that both ward behavior and depression improved significantly more in a high dosage group than for the low dosage and control groups but at the risk of additional behavioral and physical side effects. It was concluded that the measure of depression employed has merit and that nialamide used watchfully in high doses represents a worthwhile contribution for the treatment of the depressed or apathetic patient.

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REACHING THE SEVERELY WITHDRAWN THROUGH PET THERAPY

ARLINE SIEGEL, M.S.¹

The idea of using dogs, cats, or other pets as a means of therapy for the mentally ill is not a new one. Numerous times its possibilities or its usage has been noted, but no systematic study has ever been undertaken.

About 1800 at the famous Retreat at York, England(1), pets were considered of therapeutic benefit to patients. Dr. Humphry Osmund has reported his feelings towards pets while under the influence of LSD₅₀. At the same time he noted a detachment from human beings he experienced a feeling of great comfort from

¹ Gillette, N. J.

small pets. His Chihuahua dog in particular afforded him great comfort, and he found it far less difficult to relate to than to his own small daughter(2).

The Speyer Hospital for Animals in New York City has for some time been noticing the therapeutic effect of pets on people with physical or mental illnesses or who are depressed and even suicidal. At Speyer Hospital an adoption agency is conducted where pets of all shapes and sizes can be placed in proper homes. Physicians even refer some of their more difficult patients to this adoption agency(3).

Why persons can often relate better to animals than to other humans has been questioned. Communication may be established more easily with a pet than with a parent or relative. Some of the reasons for this have been answered, although intensive study would probably contribute greatly to our knowledge of just how extensively pets can and do help despondent and ill persons.

Some persons seem unable to get along happily with others; they have never learned to exchange warmth and affection. However, they are often able to release affection on animals, and they in turn become more "human" and likeable. The animal appears to break down some psychological barrier. Persons who are starved for love, who are tired of disappointments and the pains of their daily struggles with other human beings, often turn all their warmth on their pet. It is more peaceful and rewarding to give up the fight and to find a companion which will give its love unreservedly and whose affection can be reciprocated without fear of being suddenly stabbed in the heart(4).

The animal does not judge but offers a feeling of intense loyalty to persons who need that feeling. It is not frightening or demanding, nor does it expose its master to the ugly strain of constant criticism. It provides its owner with the chance to feel important, knowing that the pet's dependency is on him.

Does it not therefore seem quite feasible that severely withdrawn patients, notably

schizophrenics, might be reached through the medium of a pet? The patient has withdrawn because he has been sorely hurt by human beings; he wishes no further contact with them. He neither trusts them nor wishes communication with them. Doctors find these patients difficult to reach. Until a communicable relationship can be found, there is little hope of the psychiatrist helping. Yet within each person lies the need for communication and love. Would not the following study be worth undertaking?

A few selected withdrawn patients (schizophrenics) would be chosen. A "caretaker of the pets" would work directly under the supervision of the attending psychiatrist. Twice a week the caretaker would visit the patient, fuss over the pet designated for him (each patient would have his own pet), and talk to the patient about his pet. At first no visible sign of interest may be noticed, but incoming stimuli may still be registering on the patient's mind. Between visits the caretaker would write a letter to the patient about his pet; an attendant could read it to him.

In due time the patient may show interest in his pet and when possible he would be permitted to feed and care for it. Once a relationship has been formed it would most likely follow that the patient would begin to relate as well to the caretaker who shares his interest. When the relationship is established with the caretaker, access to the patient by the psychiatrist is then made possible. Human rapport has once more been established.

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CASE REPORTS

SUCCESSFUL SUICIDE IN A PATIENT WITH CONVERSION REACTION¹

JAMES H. SATTERFIELD, M.D.²

Many physicians believe that although patients with conversion reaction (hysteria) may make suicidal gestures, they do not commit successful suicide. A recent study of 134 successful suicides(3) did not report a single case of uncomplicated conversion reaction. Serious but unsuccessful suicide attempts by patients with conversion reaction have been reported(4). So far as is known there have been no reports in the literature of a patient with conversion reaction, uncomplicated by alcoholism, drug addiction, or other psychiatric disease, who successfully committed suicide. The following case is that of a patient with uncomplicated conversion reaction who did so.

Chief Complaint and Present Illness: The patient was a 23-year-old Caucasian housewife whose chief complaint was, "pains in chest, hard to breathe, if I take too deep a breath I choke to death." She stated that her first attack occurred two weeks prior to admission while her husband was away from home. She had gone upstairs to lie down because she was tired. On lying down she couldn't get her breath so she got up on her feet, struggled to the door, sent her child for help and fainted. She stated that just before she fainted her heart hurt and she thought she was going to choke to death. She did not lose consciousness and fell in such a way as to not hurt herself. Her husband arrived home, shook her, and all her symptoms disappeared. Her second attack occurred four hours prior to admission, with the same symptoms as with the first attack; she was brought to the hospital and admitted for a diagnostic check-up.

Past History and Review of Symptoms: The

patient stated that she had had "petit mal seizures" at 8 years of age, but had had no treatment and no seizures for the past 15 years. She had quit school while in the eighth grade at the age of 17. She attempted to work the year before her first marriage but was unsuccessful at three different jobs. She stated that she felt she had always been sickly, nervous, and had always cried easily and had her feelings hurt easily. She gave a history of lifelong symptoms of migraine headaches lasting two or three weeks at a time, constipation, anorexia, abdominal pain ("right ovary is leaking") frigidity, dyspareunia, and irregular menses accompanied by pain and excessive hemorrhage. Four years prior to this admission she had attempted suicide by taking an overdose of sleeping pills. She said that she was depressed and felt that life was hopeless at that time. She complained of fatigue and weakness for the past five years and depressed feelings every now and then for years. In all there were 36 somatic and psychological symptoms which she described in a dramatic way. The secondary gain derived from these symptoms consisted of extra care and attention from her husband. The fact that she had applied for a disability pension from the Social Welfare Agency may also have played an important role in the development of some of the patient's more recent cardiopulmonary symptoms, described above, in the present illness.

Mental Status: The only findings of note on careful mental status examination were her total lack of concern about her symptoms and her otherwise appropriate affect.

Physical Examination and Laboratory Findings: Physical examination was not remarkable. EKG, spinal tap and skull films were negative. EEG was consistent with a convulsive disorder.

Hospital Course: While in the hospital she developed paralysis and loss of sensation over both lower extremities. She was noted to be unconcerned about this new development and in three days these symptoms were gone. After 8 days in the hospital the patient was discharged home on phenobarbital and dilantin.

¹ In using the diagnostic term conversion reaction, the author is not talking about a patient with one or more conversion symptoms complicated by other psychiatric disease, but instead, the clinical syndrome, formerly called hysteria, described by others(1, 2).

² Dept. of Psychiatry and Neurology, Washington University School of Medicine, St. Louis, Mo.

Follow-up : The patient re-entered the hospital only one day after discharge with the chief complaint, "dull aching pain over the appendix." Physical and laboratory findings were negative and she was discharged after two days in the hospital to be followed in the outpatient clinic. When seen three weeks later she gave a history of frequent epileptic-like attacks one of which had lasted an hour. She was again admitted for further study and had several seizure-like spells while in the hospital. One of these spells was observed by the attending neurologist and described by him: "The patient demonstrated no clonus, no change in color, no dilatation of pupils and a quick return to consciousness. The patient said she could hear but could not talk during the spell." After one week in the hospital she was discharged home. Approximately 2 months following discharge the patient was again admitted, this time in coma. The patient's husband stated that she had had an argument with him at about 6 p.m. on the night of admission. The husband left the house and she told her son she was going to commit suicide if her husband didn't come back. About 2 hours later the daughter found that the patient could not be aroused and called the husband. He discovered that she had taken an unknown amount of phenobarbital and brought her to the hospital. On admission it was noted that her pupils were non-reactive, the corneal reflex was absent and patient did not respond to painful stimulation. On the second hospital day she was still deeply obtunded and had spiked a temperature of 101°. At 9:30 a.m. on the same day she became suddenly cyanotic and expired before tracheotomy could be done.

Post-mortem examination was not remarkable except for edematous lungs. Cause of death was reported as barbituate poisoning.

SUMMARY

A patient with conversion reaction who demonstrated typical symptoms for this illness (*la belle indifference*, spells of aphonia, paralysis, anesthesia and many other unexplained symptoms) is presented. This case illustrates that successful suicide in a patient with conversion reaction, although rare, does occur. This case also suggests two dangers in the management of conversion reaction patients. The first danger is that the physician may be so impressed with the multiple hysterical symptoms that he may not pay enough attention to depressive symptoms and underlying depression. The second danger is that these patients may intend to make only a suicide gesture and in so doing commit unintentional but successful suicide as may have occurred in the above case.

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DELUSIONS OF CHILDBIRTH AND LABOR IN A BACHELOR

S. B. JENKINS, M.D., D. M. REVITA, M.D., AND A. TOUSIGNANT, M.D.¹

The first case involving a delusion of pregnancy was reported by Esquirol in the 19th century. A single woman, 31 years of age, imagined herself to be impregnated by her botany teacher. She stopped eating, lost weight and died 18 months later. She remained convinced of her pregnancy even though the delivery did not occur(1).

Delusions of pregnancy in men are rela-

tively rare. Baonville, et al.(2), described 2 cases. The first was that of a 73-year-old man suffering from a chronic brain syndrome. The other was a 44-year-old depressed patient who, at first, had delusions of pregnancy but later imagined he was filled up with infestations(3). Marchand noted that men with general paresis frequently had the idea that they were pregnant. One man, he recalled, would take the obstetrical position and while bearing down would yell, "Here is the head ; it is passing." He observed that another patient had a

¹ Respectively, Director of Male Psychiatric Service, Staff Psychiatrist, and Psychiatric Resident, Wayne County General Hospital, Eloise, Mich.

multiple pregnancy. He would pretend that the children were moving in his abdomen (3).

Neveu and Boyer described a patient with a typical postencephalitic parkinsonian syndrome who expressed delusions of pregnancy (4).

The latest report of such delusions was made by Alliez, Collomb and Vidal. They described the experience of a young African of the Ouolof tribe. This young man described his condition in this way: "I have two babies in my stomach. I feel them, they are a boy and a girl. It is God who gave them to me. I am very happy. I'll keep them. I am not embarrassed." Each night the patient would deliver out of his sides not only babies but also fragments of children and animals. He had ideas of persecution about his family. For example, he felt that his family wanted part of him, i.e., his arm. He wanted to stay whole. He felt members of his family were vampires. He was actively hallucinating. After a few weeks his delusion disappeared spontaneously (3).

Our patient was admitted not only believing that he was pregnant, but also that he was in the throes of the first stage of labor.

This 19-year-old, single white male was brought to our hospital by the local police. He had been creating a disturbance in a local store, annoying patrons and breaking the glass in a door.

On admission he was very confused, disoriented, incoherent and irrelevant. He talked of many topics but always came around to the subject of his baby. He said that he had come to the hospital to have the baby taken out of him, and that the baby in his stomach was due to many undesirable things he had done. He stated, "I love the baby. I think I am like God, making a baby by myself. Policemen should be around in order to have the baby born right. . . I would like to have ether anesthesia so I won't feel the pain. I'll name my baby John after our new President, John F. Kennedy. I quit my classes and I have been flunking in my grades because of the baby. I quit because I did not want the baby to be born in the school. My classmates might call me a girl instead of a man, a matured man." He talked about drinking castor oil in order to have the baby out from his stomach and

that he was poisoned and the baby was a birth effect. "I do not love my father or my mother. They caused me to have a relapse. I hate them. They used to beat me too much. They can't think straight. They teach me to be smart. I can't help it, I was born wrong. I am too nervous. My mother acts like an evil witch to me. She forced me to eat and to do anything else she wanted me to do. I think the most important thing in life is to mind your own business. Oh! There is my baby again, I can hear him, I think he'll be a boy because I am a man, a matured, 19-year-old man."

Physical Examination: Essentially within normal limits. Urine pH 6.5; protein 1 plus; glucose, negative. Serology, negative.

3-3-61 -Hb 15.9, WBC 7,300, glucose 78; Bilirubin less than 1.2; Spinal Fluid: total protein 37; globulin slight trace; Kline cardioplipin non-reactive; colloidal gold 0011100000.

6-21-61-Hb 14.7, WBC 6,550. Chest X-ray: no evidence of active pulmonary disease. EEG: no significant finding. Skull series normal. Skull mastoids much larger than usually seen.

Mental examination: Patient clinically retarded. Verbal intelligence recorded as 61 on the Wechsler Adult Intelligence Scale. It was estimated that he had a low average intellectual potential. He showed apparent affect "flattening" and dissociation. He was confused and disoriented in all spheres; memory for past and recent events, retention and immediate recall, and counting and calculation were poor.

Course in the Hospital. Admitted January 25, 1961; he was going through the motions of childbirth. During the first 3 days in hospital the patient was markedly agitated. He was in and out of physical restraint, used as a protective measure. Chlorpromazine was administered up to levels of 800 mg. per day. He remained agitated, nervous, confused and hyperactive up to February 1, 1961. On February 9, he showed secondary symptoms from chlorpromazine medication: drooling, stiffness of extremities, unsteadiness. On February 10 he stated he had made a mistake when he told the doctor he was going to have a baby. "I can't have a baby because I'm a bachelor. Besides, women have babies and if I had one it would die."

He gained 10 pounds: 162-172. After 6 months of treatment, the patient was calmer

and more cooperative. He went on frequent visits. He felt that he had been "crazy" to have had such ideas. The patient still appeared mentally defective. He was tidy, interested in his environment, and was looking forward to going home. He was being maintained on chlorpromazine spansules, 150 mg. b.i.d.

and felt that they made him think certain ways. His mother was pictured as a controlling witch.

We can speculate that by carrying this boy baby in his stomach he was doing more than acting out a rebirth fantasy. He was playing both the role of the good child-bearing mother and the reborn self.

COMMENTS

This young man, of somewhat limited intelligence, presented a clinical picture consistent with a schizophrenic process. Laboratory studies and other examinations ruled out paresis and the postencephalitic syndrome. His conflict was similar to that mentioned in the case of the young African. He felt that he was controlled by his family

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RESISTANT PSYCHOSIS TREATED SUCCESSFULLY BY INDOKLON(1, 2, 3)

IRVING D. ROSENBERG, M.D.¹

One of the difficulties in the treatment of psychosis by any means whatsoever is that improvement may progress to a certain level and then may remain at that stage of remission for the rest of the patient's life or until the next psychotic episode. Frequently, especially in schizophrenia, a second episode of acute psychosis is followed by improvement which progresses to an even less satisfactory level of remission. Gradually, with successive attacks, permanent deterioration becomes more pronounced, and eventually the patient becomes a typical back-ward chronic schizophrenic.

Therefore, the problem is to make each remission as complete as possible and as long-lasting as possible. It is for this reason that combined treatments (EST administered during insulin coma) is frequently used in schizophrenia, where, after a prolonged course of insulin, the patient shows no remission (e.g., disappearance of hallucinations but persistence of delusions). Combined treatments have also been shown to

produce a more effective remission than any other form of treatment to date. However, combined therapy has its drawbacks : it is a long procedure, taking up to one year in some cases ; it requires hospitalization for the entire period of treatment ; it is very expensive ; and it too many produce no remission at all or only a partial remission.

It was to overcome these drawbacks to combined therapy in many cases that the following procedure was undertaken. This investigator noted that the literature on Indoklon suggests that it is of particular value in the clearing up of hallucinations and delusions, as in some psychoses, especially paranoid schizophrenia, paranoid state, and involutional psychosis with paranoid trends. Therefore, the patient in the case outlined below was selected because he showed delusions which were resistant to treatment. Indoklon was administered here in conjunction with the muscle-relaxant succinylcholine chloride (4, 5) and with Pentothal(4).

The patient is a 34-year-old white male electrician, separated from his wife and living with another woman. The latter whom he re-

¹ 44 Maple Ave., Morristown, N. J.

fers to as his "wife," has been taking care of the patient's household including his two children by his first marriage and the one child of his present "marriage." For the past 5 months, the patient has been suspicious of his "wife" and been looking for evidence of her going out with other men. He also noticed that cars slowed down as they passed his house and that his "wife" seemed to signal to the men in the cars. In addition, he noticed many strange things: *e.g.*, ash-trays and other small objects were always pointing at him. Two days ago, the patient became overwhelmed with the sudden impulse to kill his "wife" and struck her with his fist, lacerating her face. The diagnostic impression of this man was paranoid state.

He did not respond to a course of chlorpromazine but showed some decrease in the severity of his anxiety with (Thorazine) plus a course of 13 EST's. Because of the persistence of his delusions, he was then given one convulsive chlorpromazine treatment with Indoklon, which immediately produced a dramatic disappearance of all delusions. This was followed up by 2 additional Indoklon treatments, within the next 30 days. Four months later, the patient (without tranquilizers) still maintained his complete recovery and was described by his "wife" as "much calmer and more considerate than he was even when I first met him."

SUMMARY

A case is presented in which a patient's delusions, which had been resistant to

ECT and tranquilizers, cleared up rapidly after only one Indoklon treatment. Indoklon, therefore, is an important somatic treatment in psychiatry because, although it is not yet generally available(6), it has distinct advantages: it is preferred over ECT by most patients(3), it does not require a long course of treatment or costly hospitalizations(3), it can be done as an outpatient or office procedure, it is safer than ECT(1, 2), and, as shown by this report, it is of dramatic benefit in some cases resistant to other forms of psychiatric treatment.

The cooperation of the Medical Research Foundation of Philadelphia in providing the Indoklon used in this study is gratefully acknowledged.

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COMMENTS

SOME ASPECTS OF THE VIIth INTERNATIONAL CONGRESS OF NEUROLOGY—ROME 1961

This Congress provided, as usual, a broad coverage of clinical neurology and the basic neurological sciences with many excellent presentations. There was, however, something novel in the atmosphere of the Congress that was comforting to anyone who is anxious to see an increasing integration of neurology, psychiatry and the behavioral sciences.

Two areas in particular gave evidence of this increasing integration. The neurophysiology sections provided very thought-provoking material concerning conditioned reflexes as did reports on behavior resulting from stimulation or ablation of areas of the central nervous system. It would appear that stimulation or ablation of an area involved in sexual behavior (mammillary bodies) brings about altered sexual responses, but such responses do not interfere with a learned performance (conditioned avoidance behavior).

The other area of note concerned aphasia. This constituted one of the main topics of the Congress, and for two days numerous presentations covered the various concepts of this phenomenon, bringing into focus the variety of factors (many not considered fundamentally neurological) involved in the "dysfunction of communication." On a number of occasions, the neurological contributors pointed out that the day of discrete cerebral localization, as the major consideration in explaining function, is past. In this regard, propositional communication function was discussed by Cohn (USA), and here was a communication dysfunction in which the brain lesions clearly occurred

in the "non-language" areas.

The phenomenon of communication is a good example of a function in which a multiplicity of factors are involved, and a sample of the variety of these factors is seen in the following subjects, pertaining to aphasia, brought before this Congress: the area of the brain involved and the depth of the lesion into the white matter; the sensory-motor-sensory scheme; the emotional and premorbid personality contributions to this dysfunction; the application of the theories of probabilities (Russell Brain); the psychological; the linguistic and psycho-linguistic (Grewell) approaches; aphasia in the polyglots; and even prosodic grunts (Monrad-Krohn). These were but a few of the studies reported at this Congress.

The neurologists are to be commended on their insight into the needs for their multi-disciplinary approach to this subject as well as for their objective attitude in evaluating the neurological factors involved. Psychiatry would do well to invoke to a greater degree such insight in their investigation of behavior, which after all is psychiatry's home territory and sorely in need of a more scientific and less hypothetical approach.

The behavioral sciences are a field where the psychiatrist, neurologist, psychologist, electroneurophysiologist, neuropathologist and our colleagues in the engineering and biometric fields constitute important members of the team if we are to progress in the better understanding of behavior.

L. D. P.

CORRESPONDENCE

PSYCHIATRIC ILLNESS IN MEDICAL STUDENTS

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : In the October issue of the *Journal*, Pitts, Winokur, and Stewart(1) state that they found 6 of 40 medical students at Washington University School of Medicine to be psychiatrically ill. Of these, 3 had a manic-depressive reaction. None was diagnosed as schizophrenic. "Indeed only 2 cases of schizophrenia have been seen in Washington University medical students in the past 16 years."

These figures are at variance with our own. Since 1951, we have treated 121 medical students at Hutchinson Memorial Psychiatric Clinic at Tulane in intensive therapy, the average number of sessions being 70(2). Of this group, 27% have been diagnosed as schizophrenic and 3% as borderline. This is somewhat lower than the 37% reported for the population treated in our clinic(3), yet it still represents a sizeable percentage of schizophrenia. Moreover, this figure of 27% does not include a number of students not receiving psychotherapy in our clinic who had psychotic episodes requiring hospitalization, nor does it include a few who sought help from private psychiatrists in the city. (No accurate information exists about the number of schizophrenics in the privately treated group.)

To what can the differences in the two sets of figures be ascribed? Is it possible that the admissions committee at Washington University School of Medicine is so superior to that at Tulane that they have been able to screen out almost all schizophrenic students? It is difficult for me to believe that there is such a vast difference in the diagnostic ability of the committees on admissions. The differences, rather, must be ascribed to different diagnostic methods and criteria. First, the students subjected to the diagnostic survey at Washington University were seen in only one to three diagnostic interviews. It should be clear that 70 therapeutic sessions would give a psychi-

atrist a better chance to make a more accurate appraisal than one to three sessions. Secondly, does the diagnosis of schizophrenia at Washington University depend on the occurrence of secondary or accessory symptoms? Are these of such severity that hospitalization is required? Our own diagnostic criteria fit those set forth by Hoch and Polatin(4) and depend on the diagnosis of primary or fundamental symptoms and on a grouping of the more subtle manifestations of schizophrenia. In our own recently published study of patients treated in our clinic, there were 130 with this diagnosis of whom only two required hospitalization during the period of therapy. While it may be true that we are making the diagnosis of schizophrenia more frequently than it would be made in other clinics, it surely must be true that the reported incidence of schizophrenia at Washington University must be altogether too low. Our own finding of 27% of treated medical students when extrapolated for the entire student population of the medical school in these ten years indicates that the incidence of schizophrenia in the student body was 2.66%. Although this is higher than the estimated rate of schizophrenia in the general population, it must be borne in mind that discharges for psychiatric reasons were far higher among medical officers in World War II than in any other group of officers.

The finding of 3 manic-depressive patients of the 6 psychiatrically ill students does not fit our experience at all. We found a number of neurotically depressed students, but not one with a diagnosis of manic-depressive psychosis. This is in keeping with the finding that only 2%-3% of those admitted to mental institutions in the United States are now given the diagnosis of manic-depressive psychosis. I question the validity of the statistics reported by Pitts, *et al.*; even if they are valid they probably represent a chance finding. In any event, I would suggest that it is dangerous to generalize for the

medical student population on the basis of this cross-sectional and somewhat superficial sort of research.

I would like to emphasize that a diagnosis of schizophrenia in our medical students does not imply a poor prognosis for their professional future. Most of these students have not only graduated, but as far as we know, have made an adequate adjustment in their professional lives since graduation. The diagnosis of compensated schizophrenia does not and should not carry the dire implications assigned to it by so

many psychiatrists.

Harold I. Lief, M.D.,
Professor of Psychiatry,
Tulane University.

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REPLY TO THE FOREGOING

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : We find Dr. Lief's response to our article most stimulating; we particularly appreciate his interest in psychiatric illness in medical students.

In brief, we presented the results of a psychiatric survey of a medical school class; case reports were given to document each of our positive findings. We referred to appropriate literature to specify our diagnostic criteria. Since our results were quite different from those reported from other centers, notably Tulane, we felt constrained to point out the discrepancy with bibliographical annotation. We also mentioned the fortunate rarity of schizophrenia in Washington University medical students—over a 16-year period the incidence has been approximately 0.001%. Dr. Lief is correct in insisting that something must account for a difference between this figure and the figure he gives of 2.66% which he states "does not include a number of students . . . who had psychotic episodes requiring hospitalization, nor a few who sought help from private psychiatrists."

Approximately 10% of Washington University Medical School students seek psychiatric care sometime during their four years here, and are seen in psychotherapy by members of this department. From Dr. Lief's letter we estimate that this is quite similar to the experience of the psychiatry department at Tulane.

Dr. Lief's assertion that our admissions committee is no better able to screen out schizophrenic applicants is probably correct; certainly no specific psychiatric evaluation is made of applicants without obvious indication.

We reject Dr. Lief's implication that an average of 70 therapeutic interviews would enable us to recognize more schizophrenics though we emphasize that careful follow-up often leads to better understanding (or even solution) of difficult differential diagnostic problems. Certainly Dr. Lief advances no data to indicate that a significant proportion, or even any, of the (presumably) 35 schizophrenics recognized and treated exclusively as outpatients at Tulane in the past 10 years have been diagnosed sometime after the first two or three interviews.

Dr. Lief's reference to higher rates of medical discharges for psychiatric reasons in medical and other officer personnel seems irrelevant. Original selection criteria for medical officers were quite different and Dr. Lief fails to specify that schizophrenia was even a dependent variable in this discrepancy.

Examination of outcome makes it quite clear that Dr. Lief is using different criteria for the diagnosis of schizophrenia. The two cases we mentioned incidentally have been continuously ill for 10 and 6 years, respectively; both require chronic psychiatric hospitalization and have shown signs of deteri-

oration. Dr. Lief, in contrast, reports that the majority of his schizophrenic students *not only are functioning well but have never required hospitalization!*

We offer the fact that no schizophrenics were found in our sample as explanation for our failure to indicate our criteria for the diagnosis; we reply to Dr. Lief's query by referring to the work of Eugen Bleuler (1), Langfeldt (2, 3), and Astrup (4). Our experience indicates that one can predict a process or nuclear outcome in 80%-90% of patients carefully diagnosed in this way. If schizophrenia is defined as a disorder which ordinarily appears between ages 15 and 25 and which produces behavioral deterioration, the natural history tends to preclude acceptance into medical school.

Our understanding of the work of Hoch and Polatin (5, 6) is that a small group of schizophrenics were described who initially presented with pan-neurosis and/or pan-anxiety, etc., but were discovered to have primary or "process" symptoms. One might question whether these primary symptoms are definable in a non-psychotic patient as they are frequently subtle and there are no data on their occurrence in a normal population. These patients were labelled pseudoneurotic schizophrenics.

It is our belief that extensive clinical utilization of the concept of pseudoneurotic

schizophrenia is not warranted prior to publication of adequate follow-up reports of the original cases.

In short we do not believe that either New Orleans miasmas or the Tulane medical curriculum are schizophrenogenic but we do infer that Dr. Lief has enthusiastically substituted pseudoschizophrenic neurosis for Dr. Hoch's pseudoneurotic schizophrenia.

Ferris N. Pitts, Jr., M.D.,
George Winokur, M.D., and
Mark A. Stewart, M.R.C.S., L.R.C.P.,
Washington University,
School of Medicine.

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POST-HOSPITAL USE OF TRANQUILIZING DRUGS

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY:

SIR: The article "A Preliminary Report On The Continued Post-hospital Use of Tranquilizing Drugs" by Wolff and Colacino in the December 1961 *American Journal of Psychiatry* reaches the conclusion, "Where the tranquilizing drugs have shown their effectiveness in the hospital, for the post-hospital period other means than purely medical treatment seem more effective in promoting recovery." If this were true it is puzzling as to why the authors are interested in "A closer cooperation with local individuals and agencies . . . showing as a result a higher percentage of patients who

continue to take prescribed drugs . . ." Incidentally, this conclusion is based on a difference in percentages which is not statistically significant (see Table 5).

The basic problem which we have in accepting the first conclusion is that there does not seem to be a control group. Patients, some of whom took their medication and some of whom stopped taking medication, are compared on the basis of rehospitalization rate and community functioning. There were no significant differences. Our question is whether one who discontinues the use of medication is in any systematic way different from one who continues taking medication. Granted a "Total well-being score"

showed no differences but there is no discussion of the nature of this measure.

It would seem that the only way to study the question is to have a control group for whom tranquilizers are not prescribed contrasted with an experimental group for whom tranquilizers are prescribed, assignment to the groups being made on a ran-

dom basis. This study should be done with various types of drugs and various types of patients before conclusions regarding the efficacy of medical treatment in the post-hospital period can be reached.

Sheldon Blackman, Ph.D.,
Ezra E. Dorison, M.D.,
Fort Knox, Kentucky.

REPLY TO THE FOREGOING

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY:

SIR: In reply to Drs. Blackman and Dorison we would like to restate our opinion, based on our experience during the course of the Minnesota Follow-up Study, now terminated, as well as on the results obtained from the Study.

We did indeed compare patients discharged with and without follow-up prescriptions for tranquilizing drugs. We found no statistical differences in re-hospitalization and "well-being." This was not a comparison with a control group, however. It was impossible to find a control group at the time which would be medically comparable.

Presumably the patients who were discharged without a follow-up prescription were expected to do well even without medication. The fact that the two groups did about equally well may mean that, indeed, the one group did as well *with* medication as the other did without (which was medically expected).

The majority of patients, however, were discharged with a follow-up prescription. Within this group, there were individual differences which determined whether or not patients actually followed the prescribed medical course. Comparisons within this group showed that there was no discernible difference between subjects who did and subjects who did not take their medication—even though it was prescribed for all of them. The reason why tranquilizers were discontinued was almost always a non-medical one, or, at least not sanctioned by a physician.

The statement "... that after discharge

psychological and societal rehabilitation apparently play a greater role . . ." refers to the findings pertaining to the actual use of tranquilizing drugs, not whether or not tranquilizers were prescribed. Or within the group of subjects who were supposed to take tranquilizers we found that there was little difference between those who followed their doctor's advice and those who did not. We also know, from other parts of the Study, that there are other factors (briefly alluded to in the introduction to the article) which do significantly affect the success of the patients' post-hospital adjustment.

Of course we do not deny that there are clinical indications for continued use of tranquilizers. In our sample there was a sizeable group of subjects who continued to receive prescriptions, however, without having seen their physician. Our findings seem to suggest that for a large portion of our sample the continued use of tranquilizers was not "needed."

At the same time, the experience gained by the members of the Minnesota Follow-up Study staff suggests that a multi-disciplinary team, cooperating closely with individuals and agencies in the community, while working with the discharged patient, is successful in implementing professional assistance, including medical care.

We have found that the extremely widespread use of tranquilizers, although obviously medically indicated in some individual cases, often masks the need for social and psychological rehabilitation.

Robert J. Wolff, Ph.D.,
San Francisco, Calif.

ECT AND ANTI-DEPRESSIVE DRUGS

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : In a recent paper in this *Journal*, Doctor Leonard Cammer has succinctly discussed an unusual development in psychiatric treatment, that is, the partial replacement of a highly effective and safe mode of treatment (ECT) with an inferior mode ("anti-depressive" drugs) (Cammer, L. : Treatment methods and fashions in treatment, *Am. J. Psychiat.*, 118 : 447, 1961).

One wonders if there are other such instances of therapeutic regression ; if there are, I would like to know of them, especially in the field of psychiatry.

It is hard—at least for me—to imagine anything more deplorable than the failure to

use early and adequate ECT in involutional depression. As Doctor Cammer points out, even the most optimistic *claims* for the "anti-depressive" drugs are short of the *attainments* of ECT in the treatment of involutional and other severe depressions.

I hope this note will serve to open discussion of a more general problem—the propriety or wisdom of the publication of commercially sponsored reports on "psychotropic" drugs. I believe that such reports are most frequently laudatory and unsubstantial.

Lawrence H. Gahagan, M.D.,
The Beverly Hills Medical Clinic,
Beverly Hills, Calif.

REPLY TO THE FOREGOING

Editor, THE AMERICAN JOURNAL OF PSYCHIATRY :

SIR : It was good to receive Dr. Lawrence H. Gahagan's letter, and to hear his supportive note from clear across the country.

Dr. Gahagan wonders about other instances of "therapeutic regression" in psychiatry. Let me suggest one possibility in American practice that comes to mind. It deserves some attention.

In the somatic approach to schizophrenia, insulin coma treatment was introduced by Sakel and further developed by Bond, Shurley and others in this country. But following the availability of psychotropic drugs it went into decline. Yet insulin coma is probably the best treatment for many of the schizophrenias. "Ambulatory" or sub-coma insulin is also an extremely effective ad-

junct in the treatment of a variety of disorders wherein anxiety, debilitation, malnutrition, neuropathy, and "low-tolerance" for stress are part of the clinical picture. Fortunately, insulin coma is now being revived (Laquer, Dussik and others). Additional insulin units are being opened and it appears that this treatment might again be more readily available.

However, regardless of reports in the literature, and their sponsors, it seems to me that the burden of responsibility for the diagnosis and care of the patient rests squarely upon the physician. *Caveat emptor?*

Leonard Cammer, M.D.,
45 East 85th Street,
New York 28, N. Y.

NEWS AND NOTES

HILLSIDE HOSPITAL ISRAEL STRAUSS LECTURE.—Dr. Milton Greenblatt, Assistant Superintendent and Director of Research and Laboratories, Massachusetts Mental Health Center gave the annual Israel Strauss Lecture at Hillside Hospital, Glen Oaks, N. Y., on Sunday, April 29, 1962 at 10:30 A.M. Dr. Greenblatt's address was titled "Beyond the Therapeutic Community."

THE DEVEREUX SCHOOLS' FIFTIETH ANNIVERSARY.—This year the Devereux Foundation celebrates its Golden Anniversary. Commemorating this anniversary will be its twenty-first annual dinner for invited guests of the American Psychiatric Association. The guest speaker will be Chancellor Samuel E. Gould of the University of Southern California. There will also be a brief presentation of Devereux students.

NATIONAL COUNCIL ON FAMILY RELATIONS.—The 1962 annual meeting will be held at the University of Connecticut, Storrs, Conn., on August 22-24. "Eye on the Family" will feature new perspectives on American families and new directions for family life workers.

CONGRESS OF PSYCHIATRY AND NEUROLOGY OF THE FRENCH LANGUAGE.—The sixtieth session of the Congress will be held at Anvers, July 9-14, 1962.

The principle subjects will be: Psychopathology of Expression (M. Bobon de Liege); Study of the Motor Plaques in the Pathology of Skeletal Musculature (MM. Fardeau de Paris et Coers de Bruxelles); and Critique of Tests in Professional Orientation (MM. Pechoux de Caluire et Tordeur de Bruxelles).

HISTORY OF THE BEHAVIORAL SCIENCES NEWSLETTER.—This Newsletter, edited by Eric T. Carlson, M.D., of the Payne Whitney Psychiatric Clinic, originated in 1960 and is now in its third issue. It deals with

the historical aspects of the behavioral sciences and is calculated to serve the interests of anthropologists, psychiatrists, psychologists, sociologists, neurologists, and historians. The annotated bibliographies are valuable for reference and to make one acquainted with what is going on in the neighboring fields.

The Newsletter is published by the Department of Psychiatry, New York Hospital, Cornell University Medical College, and is thus far free of charge.

The present number, Dec. 1961, deals with organizational activity. The growth of the library at the central office of the American Psychiatric Association, recently increased by the donation by Mrs. Meyer of the 3000-volume library of Dr. Adolf Meyer, and other collections. Prospective donors may write to the librarian Mr. Jeremiah O'Mara at the central office.

The Albert Deutsch Memorial Foundation plans to publish a memorial volume of Mr. Albert Deutsch's publications.

Contributions to the Foundation will be welcomed by Dr. Julius Schreiber, president of the Foundation, Washington 6, D. C., Room 1130 Dupont Circle Building.

At the autumn 1961 meeting of the History of Science Society, Dr. Carlson spoke on "Examples of Horribilia in the History of Psychiatric Therapy."

During the autumn of 1961 Dr. George Mora conducted a seminar in the history of psychiatry from primitive medicine on, extending through 10 sessions.

News of historic interest from many centers, American and foreign, is included in this issue of the Newsletter.

CANADIAN PSYCHIATRIC ASSOCIATION.—The annual meeting 1962 will be held at the Fort Garry Hotel, Winnipeg, Manitoba, June 21-28.

On June 22 speakers on a panel "Future Psychiatric Services in Canada" will include: G. L. Admason, C. A. Roberts, D. G. McKerracher, Clyde Marshall, and A. B. Stokes. The Academic Lecture "Heredity

and Environment" will be given by Irene Uchida, Director of Medical Genetics, Children's Hospital, Winnipeg.

Hotel reservations should be made through The Chairman, C. M. A. Committee on Housing, 601 Medical Arts Building, 404 Graham Ave., Winnipeg 1, Manitoba.

SOUTHERN PSYCHIATRIC ASSOCIATION.—Dr. Hamilton Ford, Chairman of the Program Committee, requests members who would like to present papers at the meeting in Galveston next October to send him titles and abstracts promptly.

Papers regarding Action Programs for Research and Treatment of the Mentally Ill will be particularly welcome.

THIRD WORLD CONGRESS OF PSYCHIATRY ABSTRACTS.—The McGill University Press will distribute the abstracts of the Third World Congress held in Montreal in June of 1961. The price is \$2.00 per set, postage extra, and orders can be sent to McGill University Press, 3458 Redpath Street, Montreal 25, P. Q., Canada.

CERTIFICATION OF GROUP PSYCHOTHERAPISTS.—A conference on certification of group psychotherapists and psychodramatists will be held at the Royal York Hotel, Toronto, Wednesday, May 9, 1962. Members of the American Psychiatric Association and representatives of Group Psychotherapy Societies are urged to participate. Correspondence may be addressed to Mrs. Ann Manzoeillo, Secretary, 259 Wolcott Ave., Beacon, N. Y.

LYNCHBURG TRAINING SCHOOL AND HOSPITAL 1962 LECTURES.—Charles M. Poser, M.D., Associate Professor of Medicine (Neurology), University of Kansas Medical Center: Apr. 19, "Preventable and Remediable Forms of Mental Retardation"; Apr. 20, "Epileptic Equivalents in Children," "The Phakomatoses"; Apr. 21, "Differential Diagnosis of Diffuse Sclerosis in Children."

Harry F. Harlow, Ph.D., Professor of Psychology, Primate Laboratory, University of

Wisconsin: May 24, "The Infant-Mother Affectional System"; May 25, "Affection Among Infants," "The Heterosexual Affectional System"; May 26, "The Maternal Affectional System."

June 14, Seminar on Therapeutic Trials. Richard L. Jenkins, M.D., Chief of Child Psychiatry, University of Iowa; Gilbert W. Beebe, Ph.D., Statistician, National Academy of Sciences, Washington, D. C. Other speakers are to be announced.

INTERAMERICAN SOCIETY OF PSYCHOLOGY CONGRESS.—The seventh Congress of the Society was held in Mexico City, December 19 to 23, 1961. There were representatives from 11 countries: Argentina, Brazil, Chile, Colombia, Cuba, Guatemala, Mexico, Panama, Peru, the United States (including Alaska), and Venezuela. Sessions were held at the Centro Medico of the Seguro Social, recently built, which has the finest facilities for professional congresses in all North America.

The major themes of the meeting included Culture and Personality, Experimental Psychology, Applied Psychology (Educational and Industrial), and Psychology and Mental Health. Five plenary meetings were devoted to major papers by Dr. Gustave Gilbert (U. S.) on "The Needs for a Comprehensive Bio-Social Theory of Personality"; Dr. Erich Fromm (Mexico), on "The Revolutionary Character Structure"; Dr. Carlos Alberto Seguin (Peru), "Language and Communication"; Dr. Abraham Maslow (U. S.), "The Scientific Study of Values"; and Dr. Robert B. Mahmo (Canada), "Contribution of Experimental Psychology of the Clinical Interview."

The officers of the Society for 1962-63: Dr. José Bustamante, President; Dr. Gustave M. Gilbert, Past-President; Dr. Harold H. Anderson, President-Elect; Dr. Victor D. Sanua, Executive Secretary for North America; Dr. Rogelio Diaz-Guerrero, Executive Secretary for Mexico and the Caribbean Islands; Dr. Fernanda Monasterio, Executive Secretary for South America; Dr. Rafael Nunez, Treasurer; and as Vice-Presidents: Dr. Wayne H. Holtzman for North America, and Dr. Carlos Alberto Seguin for South America.

The 8th Congress is scheduled for 2 to 6 April, 1963 at Mar La Plata, Argentina, under the sponsorship of La Plata University.

"Trends in Geriatrics" at the evening dinner.

COATESVILLE V.A. HOSPITAL P. AND N. INSTITUTE.—The topic of the Fifth Annual Institute, to be held May 16 and 17, 1962, will be "Problems of Aging." On May 16, Edward L. Bortz, M.D., former president of the American Medical Association, will be the guest speaker and will discuss

EASTERN PSYCHIATRIC RESEARCH ASSOC.—32nd Scientific Meeting, Thurs., June 7, 1962, 8:00 P.M. at New York University Medical School, 30th Street and First Avenue, *Symposium on Psychosomatic Medicine*. Panel: Leo Alexander, M. D., Robert Dickes, M.D., H. Keith Fischer, M.D., William Malamud, M.D., and Marvin Stern, M.D.

SECURITY

The longing for certainty and repose is in every human mind. But certainty generally is illusion and repose is not the destiny of man.

—JUSTICE OLIVER WENDELL HOLMES

BOOK REVIEWS

AFTER-EFFECTS OF BRAIN INJURIES. Research on the Symptoms Causing Invalidism of Persons in Finland Having Sustained Brain Injuries During the Wars of 1939-1940 and 1941-1944. By *Eero Hillbom*. (*Acta Psychiatrica et Neurologica Scandinavica. Supplementum 142, Volumen 35.* Copenhagen : Ejnar Munksgaard, 1960, pp. 195.)

The author had the opportunity to study 3,552 cases of brain injuries, from which he selected 415 cases by a method which provided statistical validity.

The book consists of five parts. The first part deals with a survey of the literature (192 references from the German, American, British, and Scandinavian literature). The author compares the conclusions reported in the literature with the findings of his study. Part two describes the material studied. In part three the neurological aspects are discussed. Part four deals with the psychiatric sequelae. Part five is concerned with prognosis, followed by a summary and conclusions. One hundred case histories of syndromes with special features are included.

The author's purpose was to standardize the evaluation of disability because of his impression that the disability ratings were often too high or too low. He believed this error resulted from a lack of information concerning the course of brain injury cases.

Some of the author's conclusions are as follows:

1. Sequellae of brain injuries depend on such manifold and different factors that it is not possible to deal with the brain-injured as a homogeneous group and no general rules are valid.

2. Later deterioration may take place as a consequence of the injury and not necessarily as a result of additional illness.

3. Figures show clearly that hereditary factors cannot have any important role in the appearance of epilepsy.

4. The author considers that late psychoses are late symptoms of the brain injury and derive from progressive traumatic processes. The grade of severity and location of the injury are more influential than hereditary factors and pretraumatic personality in the development of traumatic psychoses. He states that not a single case of "so-called genuine schizophrenia" appeared in his case material.

5. The neurotic disturbances are gen-

erally not compensation-striving neuroses. Withholding compensation does not produce a recovery but often an impairment. In his opinion lump sum payments are rarely appropriate. Sufficient, continuous payment has shown itself an absolutely necessary aid in the patient's adaptation to the community.

In all of his discussions the author favors the injury as a cause or important factor in psychiatric conditions developing in individuals with brain injury.

This study will be of value to psychiatrists and neurologists who are called upon to evaluate patients with brain injuries.

JOSEPH S. SKOBBA, M.D.,
Atlanta, Ga.

CELLULAR ASPECTS OF IMMUNITY. Edited by G. E. W. Wolstenholme, and C. M. O'Connor. (Boston : Little, Brown & Co., 1960. \$10.50.)

This excellent volume reports in detail the proceedings of the international symposium on the cellular aspects of immunity held under the Ciba Foundation's sponsorship in June 1959. Among the 32 distinguished experts here brought together from many different countries were Sir Macfarlane Burnet and P. B. Medawar, the 1960 recipients of the Nobel Prize in Physiology and Medicine for the formulation and validation of the theory of acquired immunological tolerance.

The formal papers and group discussions are focused on three major areas of investigation : 1) the population dynamics of mesenchymal cells as they are modified by immunological processes ; 2) evaluation of the way in which immunological information is conveyed to an immunologically competent cell ; and 3) the manner in which that information can be transmitted over long periods of time so as to account for the characteristics of immunological memory. The one broad generalization which emerges is that the immunologically competent cell, rather than the antibody, has become the focus of investigation in immunology. More specifically, the plasma cell has been established as the producer of classical antibodies.

The vigorous discussions of the two major theories of antibody production demonstrate how difficult it is to decide in favor of one or the other. The Burnet-Lederberg clonal selection theory of immunity postulates that the

essential information for producing a specific antibody is inherent in the responding cell. Apart from selecting from a heterogeneous population of mesenchymal cells the clone immunologically competent to react with it, an antigen stimulates these cells to proliferate. Under appropriate circumstances, some of these descendant cells will be converted into plasma cells and produce antibodies.

The instructive theory of immunological tolerance, supported by Medawar, is more vague and less tangible than the former. The proponents of this alternative theory believe that if an antibody-forming cell does respond to only one antigen, then it reacts with whichever antigen engages it first. Hence, the inception of tolerance involves some change in the immature antibody-forming cell other than death and removal. In terms of the selection theory, the tolerant animal is one whose cells contain a particular antigen before any cell has become competent, killing those cells which mutate to the corresponding globulin state.

The difficulty in both theories is in the explanation of how the body possesses the vast store of information necessary to produce the different types of antibodies. The selection theory requires a stem line of antibody-forming cells with a high constant mutation rate of 10^{-8} to 10^{-1} in order to provide the necessary variety of genotypes. In contrast, the instructive theory states that the competent cell has the ability to respond to any one of an infinite number of antigens.

Other noteworthy reports at the conference included those on antibody formation *in vitro* by P. Grabar, and P. Cowazier; on the cellular basis for the immunological memory by D. W. Dresser, and M. A. Murchison; on some biological and immunological properties of the transfer factor by H. S. Lawrence; on homo-graft reactions by P. A. Gorer; on active immunization responses during the neonatal period by R. T. Smith; and on multiple "auto-antibodies" in systemic lupus erythematosus by H. G. Kunkel, H. R. Holman, and H. R. G. Deicher. Well-edited reports on the general discussion which follow each paper contribute greatly to the value of this informative book.

In the summary discussion Sir Macfarlane Burnet and 16 other participants summarize the major conclusions of the conference, emphasizing the special areas in which further experimental work should be concentrated. Hence, this book will be particularly useful to research-oriented persons concerned with a better understanding of the basic processes of

immunity, antibody production and sensitization.

ARTHUR FALEK, PH.D.,
Department of Medical Genetics,
New York State Psychiatric Institute.

AUFTEILUNG DER ENDOGENEN PSYCHOSEN (The Division of Endogenous Psychoses). Second Edition. By Karl Leonhard. (Berlin: Akademie Verlag, 1959, pp. 539.)

In his introduction the author states that the study of the endogenous psychoses is presently in a state of confusion, especially in England and the United States. The emphasis on infancy and early childhood impoverished the entire field of psychiatry even before the appearance of psychoanalysis.

It is customary to consider the manic and "melancholic" diseases as a manic-depressive unity. Kleist considered them as two separate diseases that have an affinity for each other. The author and Neele agree that there is a manic-depressive combination with two directions, but claim that there are also separate euphoric and depressive states that have no relation to each other. One has to distinguish between monopolar and bipolar psychoses.

The bipolar diseases are more colorful and varied and they sway not only from pole to pole, but even within the limits of the same phase they have varied symptom-pictures. However, in the monopolar forms they periodically resume the very same symptomatology. Each phase is individualized and pure and in no way repeats the symptoms of the other phase.

The classical symptomatology of the manic-depressive reactions, as described by Kraepelin, is as follows. In the manic stage there is euphoria easily passing into instability, heightened self-consciousness, flight of ideas, speech compulsivity and exaggerated "hustling." In the depressive state there is a weariness of living, feelings of inadequacy, thinking difficulty and psychomotor inhibitions. There is also a lack of decisiveness, depressive thoughts and self accusation. In the bipolar forms, certain symptoms such as hyperactivity and flight of ideas and even euphoria may be absent in the manic phase, while in the depressive phase, thinking difficulty and psychomotor inhibitions may not be present.

The author discusses cycloid psychoses with manifestations of anxiety-happiness, irritation-inhibition, hyperkinesis and akinesis. He distinguishes unsystematic schizophrenias (affect paraphrenia, schizophasia and period catatonica) and systematic schizophrenias (catatonic forms, parakinetic, proskinetik and two

forms of speech catatonia). Of the paranoid forms he mentions the hypochondriac, phonemic, incoherent, fantastic, confabulous and expansive.

Statistics referring to the ages and sexes of the phasic and cycloid psychoses and schizophrenias show that hereditary influences are strong in both.

HIRSCH L. GORDON, M.D.,
New York, N. Y.

DIE SCHWERERZIEHBARKEIT UND DIE NEUROSEN DES KINDESALTERS. By Georg Destunis. (Stuttgart : Ferdinand Enke Verlag, 1961, pp. 250.)

This book, addressed to child psychiatrists, pediatricians, educators, and psychologists, is the fruit of a decade of the author's observations and experiences as director of the children's psychiatric polyclinic of Berlin's Friedrichshain district. The subtitle, *Eine psychopathologische Betrachtung*, makes it clear that the presentation is concerned with phenomenology, diagnosis, and etiology and that no discussion of therapy is intended.

The four sections lead in crescendo fashion from adjustment problems to "pre-neuroses," neuroses, and "dissocial termination." It may not be fair to use, as one is compelled to do, English terms for some of the German expressions for which no exact equivalent is available. We have, for example, no word that could serve as a precise translation of *Schwererziehbarkeit*, which Destunis defines "a child's difficulties in adjusting to his environment (family, peer group, job, society), leaving open the question to what extent the milieu is of primary significance and to what extent the child's constitution is responsible for the nature of the problem." The author has tried throughout to do justice to both sets of influences, though one is entitled to be puzzled by the categorical statement that in approximately 50% of maladjusted children environmental pathogenicity is paramount while in the other half "hereditary, organic, or constitutional" factors are at play. This introduces an either-or concept which luckily is not adhered to in most of the text.

There are detailed accounts of potentially noxious family situations (orphanhood, step-parents, position in the order of birth); parental attitudes (strictness, overprotection, inconsistency, erotization, perfectionism, rejection); domestic strife, separation, and divorce; school influences in dealing with hyperkinetic, aggressive, inhibited, and immature students; organic (endocrine and cerebral) anomalies. There is a description of the various

forms of maladjustment: spite, aggression, attention-seeking, egocentricity, impulsiveness, intellectual and sexual precocity, timidity, spoiled child reaction, withdrawal, "laziness," the "lone wolf" type, sensitiveness, "psychasthenia," slow development, lying, and lack of affect. Brief case illustrations, which give no indications about what was or could be done for the patients, relieve somewhat the monotony of mere enumeration and description. It is probably because of the location of the clinic from which the case material is drawn that all patients come from a distressingly low socio-economic background.

The "pre-neuroses" are interposed between maladjustment and the neuroses and occupy only 7 of the 250 pages. It is difficult to follow the author's reasoning in making the distinction. "Stronger inner tension" is said to go beyond ordinary maladjustment, and retention of some degree of inner control is said to differ from the complete lack of control in the full neuroses. "Very often a neurosis develops from the pre-neurosis."

The neuroses are subdivided into spite, aggressive, anxiety, compulsive, depressive, inhibitory, hysterical, sexual, schizoid, puberty, habit (thumbsucking, nailbiting, hairpulling, masturbation), and organ neurosis, the latter comprising tics, speech problems, pica, gastrointestinal and respiratory phenomena, enuresis, encopresis, and vasomotor disturbances. For some strange reason, whatever meager (very meager) mention is made of infantile psychoses is treated under the heading of neuroses.

The last section deals with the non-neurotic and neurotic "criminal" child, homicide committed by children, unemployability, and prostitution.

There is much meat in this book. The organization makes for quite a bit of repetitiveness. The case material does not comprise all sectors of the population and is limited almost exclusively to the "lower depths." Of the references (in footnotes), about 150 are German (including Swiss and Austrian), 6 are French, 1 is Russian, and 16 are English (British and American). One wishes that the author had availed himself of much of the current body of knowledge beyond the unquestionably important contributions in the German language. One also wishes to see some follow-up notes about the children reported in the text. The absence of any hint about therapy leaves one with the feeling of gloomy foreboding which, it is hoped, was not intended by the author.

L. K.

IN MEMORIAM

ALBERT DEUTSCH (1905-1961)

MARION E. KENWORTHY, M.D.¹

Social psychiatry and the whole Mental Health movement lost one of its most important proponents in the untimely death of Albert Deutsch.

This fine writer and tireless champion of better care and understanding of the emotionally burdened and mentally ill persons in the world died in his sleep of a heart attack at Horsham, England, on Sunday, June 18, 1961.

At the time of his death he was deeply involved in the work of a preparatory commission preliminary to the meeting of the 6th International Congress on Mental Health, under the auspices of the World Federation for Mental Health, in August 1961.

For the past five years, Mr. Deutsch had been making a study of current methods of research in the treatment of the mentally ill in the United States and Canada. This effort had involved him in direct, on the spot visits to about one hundred training hospitals, clinics and research centers where intensive research studies were in progress.

During this study of research programs, he spent much time with his well known scientific colleagues who gave him generously of their time and shared their experiences with him. Characteristic of Albert's unique kind of eager enthusiasm, he found himself so enriched and heartened by the significant promise of these research efforts that he continued his search for more knowledge. Through his visits he learned of other workers, less well known, who were engaged in promising research. He visited many of these groups and made more friends.

The idea for this study was first projected by Albert Deutsch early in 1955. He was eager "to undertake a survey of modern psychiatric thought and research in the

United States for popular consumption." As he described his plan in a letter he stated,

The main object would be to help clarify public concepts of the methods, aims and accomplishments of American psychiatry. It is my belief that an over-all work of this kind, understandable to the layman, is sorely needed.

The Board of the National Association for Mental Health decided to support this important study and allocated funds for the project for a two-year period. Deutsch, in his prospectus, had assumed this would offer ample time for completion of his mission, since he wrote of his intention "to visit from twelve to twenty research centers from Coast to Coast."

He envisioned

the study would cover significant research activities in the cause, treatment and prevention of mental illness, basic research in human personality and behavior, therapies (chemical, electrical, psychotherapy), epidemiology of mental disease, mental health demonstration projects, etc.

On August 19, 1957, he wrote from California :

"The Quest for Mental Health" [the title of the book for which Basic Books had given him a contract in early 1957] continues to be an exciting project, but I am sometimes awed, appalled, overwhelmed, at the enormity of the task I have undertaken. I've interviewed literally hundreds of people, my notebooks stack up like a mountain. The raw research data . . . might reach to the top of Everest. Sifting them, and organizing the data has become quite a job. But fun.

When the two-year grant from N.A.M.H. was used up, through the good auspices of the National Institute for Mental Health, additional funds to continue the study were made available.

It is a matter of profound regret that

¹ 1035 Fifth Ave., New York 28, N. Y.



ALBERT DEUTSCH

Albert Deutsch was not permitted the privilege of living long enough to finish this important task. He was so profoundly dedicated to this self-assigned mission. He alone could distill and crystallize the significant findings which were so eagerly gathered by him with the help and cooperation of his many hundred friends in the research fields he studied.

Albert Deutsch from early adolescence displayed an eager interest in study. He often spoke of himself as self-educated. He was an omnivorous reader of history, but always in search of those facts which revealed the true social implications in history, because he cared about people. He wanted to know the cause behind the facts.

When he published his book, *The Mentally Ill in America, A History of Their Care and Treatment from Colonial Times*, in 1937 (Doubleday Doran and Co.), his friend, Dr. William A. White wrote in his introduction :

A great amount of research has gone into the making of this book . . . His approach to the subject as a social historian rather than as a psychiatrist makes possible an objective view free from the temptations of professional partisanship.

I do not possess the wisdom and profound sagacity of our beloved friend, William A. White, but I venture to put in this record that in my considered judgment, there is no other man who possesses the needed ability and who may in the foreseeable future be able to utilize this accumulated material collected by Al Deutsch with "an objective view free from the temptations of professional partisanship."

Many of the members and Fellows of the American Psychiatric Association have known Albert Deutsch for many years. My friendship with him began while he was engaged in his research for his first book, *The Mentally Ill in America*, which was supported by a grant from the American Foundation for Mental Hygiene.

His friend, Clifford Beers, believed in the honesty, sincerity and integrity of his search for truth. Through Beers' enthusiastic support, many of those associated with the program of the National Committee for Mental Hygiene became involved in making

time and material available to him.

The impact of this book upon the social conscience of the nation had a profound effect. In these pages, written without bias, Albert Deutsch made possible a constructive use of our personal guilt. As a group we were mobilized to extend the boundaries for more effective care and prevention in our work with the emotionally and mentally ill.

The efforts begun by Dorothea Dix and Clifford Beers were strengthened and extended. The support given through the foundation of the National Committee paid off by a marked increase in citizen involvement through the activities of local and state mental hygiene groups. This book made available objective facts that gave new direction to the National Mental Health movement.

In 1941 Marshall Field began the publication of his daily newspaper, *PM*. Albert Deutsch became an important staff writer. He wrote a column which was concerned with matters of health and welfare.

His column was the first of its kind to be published in any American newspaper. Many of the feature articles first published in his columns in *PM* furnished the basic material for the text of the important volume titled *The Shame of the States* (Harcourt Brace and Co., 1948).

This book had a powerful punch. The *PM* articles had wide readership appeal. In this book he emerged as a crusader for the mentally ill in America.

In the preface he wrote,

In many places state hospital conditions have actually worsened since my survey was completed . . . The insane have no vote, so calculating politicians, in the absence of public pressures, tend to forget their desperate needs. The personal friends and relatives of the institutionalized insane do vote, but they are generally frightened, confused, and ashamed . . . the crusading journalist with a sense of social responsibility must mesh his own efforts with organizational activities aimed at a common goal. Fundamental reform of our ingrained state mental hospital system is a long time project, but it must come. Etched deep in my own heart and mind are the many pitiable scenes I witnessed on the wards of mental hospitals during my survey. I shall never forget them. And so long as those poignant mem-

ories remain, I shall continue to be a part of the movement for civilized, humane and scientific treatment of those who cannot speak for themselves.

In 1945 Albert Deutsch wrote a series of articles depicting in a very straightforward fashion the poor conditions which existed in the Veterans Hospitals. These facts, revealed through the public press, aroused very considerable popular concern. Many of the men and women discharged from the services because of emotional and mental disturbances had been transferred to the Veterans Hospital facilities because the problems were considered service connected.

Albert Deutsch was ordered to appear before the Committee on World War Veterans' Legislation of the House of Representatives. The report of Friday, May 18, 1945 is a matter of public record. On this day Albert Deutsch was called upon to testify. Committee Exhibit No. 1 from PM, January 7, 1945 was titled, "The Nation." The sub-title read "Vets' Set-up Needs Revamping now to Avert Scandal. Study Shows Many 'Dollar Honest' Executives are Incompetent."

Other articles dated January 8, 1945 and May 18, 1945 were also reprinted in full text.

As a witness duly sworn Albert Deutsch indicated to the Chairman that he had prepared a brief statement. He was told by Chairman Rankin, "You are here as a witness to answer whatever questions counsel and the Committee may wish to ask." During the questioning the witness was asked, "Who else did you confer with?" As this question was repeated again and again, Mr. Deutsch had to include in his testimony, "I conferred with several Veterans Administration-members of the staffs of Veterans' Administration Hospitals." When pressed to reveal the names of persons with whom he had talked, he replied in his characteristic straightforward fashion, "Their information was given to me with the promise on my part I would keep their names in strict confidence, so I would like to be excused." The pressure to reveal names of people continued, until finally he stated, "I consider myself bound by my own personal integrity

and professional ethics not to reveal, not to violate a confidence given to a newspaper."

Mr. Rankin, the Chairman, responded, "You are going to have to answer that question or we will have to cite you for contempt." In response Al Deutsch said, "I would be very glad to give you the information I received, Sir, but I feel myself bound by journalistic ethics not to violate the confidence I gave."

The Chairman, with evident irritation, replied,

Your oath is superior to any journalistic ethics. You will have to answer the question of counsel or it will be the duty of this committee to cite you for contempt of Congress and subject you to prosecution, just the same as if you were in a grand jury. You are going to have to answer that question or else we are going to have to cite you for contempt of the House.

Subsequently Al Deutsch called Marshall Field that evening to tell him of the threat to cite for contempt. Marshall Field, who himself had courage and real integrity, supported Deutsch in his position. Then ensued a light note of banter. "What is your favorite kind of food in case you have to go to jail?" Marshall Field asked. When Al replied, "Chocolate cake," his publisher told him he would make it his business to personally bring him chocolate cake each day.

The Chairman of the Committee, at the end of a long period of insistent questioning, called upon the clerk to call the roll. "The vote was 13 ayes and 5 nays." The Chairman then said, "Have the counsel prepare the citation."

The citation for contempt was eventually rescinded, but more important for Albert Deutsch was his first hand knowledge that many of the problems existing at the time when the articles were written were corrected. Once more this crusader had the satisfaction that through his efforts and those of others, our sick veteran population were getting more adequate and enlightened treatment.

In 1949 he began to write for the *New York Post*. His friend, Marshall Field, had taken on a larger task as publisher of a large Chicago daily paper, and Albert Deutsch was involved in his study of de-

linquency problems in children which he had begun in 1947.

He says of the preparation for this important book :

I visited a number of institutions for delinquent children from coast to coast . . . I by-passed the lower category states deliberately, lest it should appear that I had sought out the worst on a muckraking expedition . . . In the course of my survey, I consulted with many leading authorities in the field, talked to scores of reform school inmates, visited detention homes, jails and additional institutions—other than reform schools—where children were maintained, and read through hundreds of pertinent reports, public and confidential.

It is important to realize that this book emerged through the response to a single article published in the *Woman's Home Companion*, later enhanced by the material which he gathered for two series of newspaper articles on this important subject. It is worth recalling that in 1941 he had published a study made in collaboration with David M. Schneider, published by the Chicago University Press, titled *The History of Public Welfare in New York State, 1867-1940*.

In 1955 he published *The Trouble With Cops* (Crown Publishers, Inc.). For years he had spent his summers in Berkeley, Calif. In conversations with his friend, August Vollmer, whom he describes as "the father of modern American police science," O. W. Wilson, Dean of the University of California School of Criminology, and Professor Austin* MacCormick, of the School of Criminology, he found another field of deep interest for his perpetually inquiring mind.

It is indeed a sad reality for all of us who knew him, and for all the untold thousands who could have found new insights into the expanding new frontiers of research, that he could not have lived long enough to complete his book upon research which he had titled *The Quest for Mental Health*.

During his lifetime he was the recipient of many awards and citations too numerous to mention. The one which meant the most to him and gave him abiding satisfaction came to him when the American Psychiatric Association made him an Honorary Fellow,

a signal honor which is conferred upon relatively few persons in this country.

After news of his sudden death, many friends found it necessary to meet together. His beloved friend, Doctor Julius Schreiber, delivered a deeply moving eulogy in New York City on June 25, 1961.

On July 6, 1961, a special memorial service was held at the Cosmos Club in Washington, D. C. The Hon. David L. Bazelon, Judge of the United States Court of Appeals for the District of Columbia Circuit, presided, and Charles I. Schottland, Dean of the Brandeis School of Social Work delivered a memorable address.

Again on November 3, 1961, a memorial meeting was convened in the large auditorium of the National Institute of Health, and four of Albert's friends paid tribute to his several fields of life interest. Dean Schottland discussed some of the challenging problems in the field of social welfare; I. F. Stone, journalist, spoke of some of the problems of the crusading journalist in modern society; Doctor Jack R. Ewalt talked on major unmet needs in the treatment of the mentally ill; and Austin MacCormick, penologist with the Osborne Foundation, discussed criminology and the correctional field.

In order to try to perpetuate some of the gifts given to us by our beloved friend, Albert Deutsch, a group of friends met in Washington on July 6, 1961, and created the Albert Deutsch Memorial Foundation, with an office address at 1130 Dupont Circle Building, Washington 6, D. C. Dr. Julius Schreiber was elected President. A brochure setting forth the aims and purposes of the Foundation is in preparation. The Board desires to help in perpetuating the tradition established by Albert Deutsch in his writing on important aspects of the whole Mental Health field.

A plan has been projected whereby when funds are made available through contributions to the Foundation an annual journalistic award may be given to a writer, chosen by an award committee of journalists and other writers of eminence.

It is anticipated that a series of three-month fellowship awards may become available for distribution to young men and women newspaper writers who evince an

interest and real desire to learn at first hand some of the problems of the Mental Health field. The Board of Trustees of the Foundation have been approached by at least two clinical psychiatric training and research facilities expressing an interest and desire to become involved in such an in-service fellowship educational experience for able writers who may be selected for this kind of program. Through this medium of special experience, it is hoped we may be able to assist in the creation of a new group of Albert Deutsch counterparts for the future needs in this important field of public education in the Mental Health field. It is further planned to publish a memo-

rial volume of some of the significant articles published in magazines and periodicals which will be selected by a committee because they are deemed important to preserve as a permanent record. The fine addresses given by Albert Deutsch's friends at the Washington meeting will be included in this volume.

The writer feels the need to offer a note of explanation for the length of this tribute. For those who are not familiar with the great contribution Albert Deutsch made to our field, I have attempted to summarize some of the areas of his significant contributions to our better understanding of "man's inhumanity to man."

PUBLICATION TRENDS IN AMERICAN PSYCHIATRY: 1844-1960

I. GENERAL SUBJECT CATEGORY AND ETIOLOGY

JOHN PAUL BRADY, M.D.²

The birth of periodic psychiatric literature in America in 1844 coincided, within 3 months, with the founding of the American Psychiatric Association, then called the Association of Medical Superintendents of American Institutions for the Insane. The *American Journal of Insanity*, later to become the *American Journal of Psychiatry*, and the many later periodicals devoted to the specialty of psychiatry are a permanent record of progress in the care and treatment of the mentally ill. More than this, they are a record of changing ideas and attitudes about the problems of psychiatry in all its ramifications. Indeed, an analysis of the contents of these journals reveals not only the state of psychiatric knowledge and practice at different periods, but the influence on psychiatric thought of other clinical disciplines, developments in basic medical sciences, and changes in the philosophico-social milieu, the *Zeitgeist*, in which psychiatry, like other products of the culture, has developed. In this series of reports, a statistical analysis of the content of a large sample of the American periodical literature in psychiatry was used to trace these developments and influences.

Medical monographs dealing with psychiatric subjects had been published in America well before the first issues of the *American Journal of Psychiatry*. Reprintings of treatises by Englishmen were published in 1808 and 1811(1). The first American monograph was Benjamin Rush's classic, "Medical Inquiries and Observations Upon Diseases of the Mind," published in 1812. Between 1842 and 1846, a weekly newspaper titled the *Asylum Journal* was published at the Brattleboro Re-

treat in Vermont. Although it was primarily the effort and writings of patients, articles relating to psychiatric problems written by psychiatrists did appear occasionally(4). However, the first American journal published under medical auspices and devoted entirely to neuropsychiatric problems was the *American Journal of Insanity*, founded in 1844 by Amariah Brigham and edited by the "Medical Offices of the New York State Lunatic Asylum" at Utica, N. Y.³ It is surely no accident that the *American Journal of Psychiatry*, its sister journals in Europe, and the American Psychiatric Association were founded during the same decade, a time of great psychiatric activity.⁴ The influence of Pinel and Esquirol had spread by way of Heinroth in Germany, and Tuke, Conolly, and others in Great Britain. In America, the fame and influence of Benjamin Rush had expanded greatly. Amariah Brigham, who had written two important monographs dealing with psychiatric disorders in the previous decade(6, 7), was appointed superintendent of the newly founded asylum at Utica, N. Y. Isaac Ray's classic on medical jurisprudence, which was destined

³ Psychiatric periodicals, or more accurately, "psychologicophilosophical" periodicals, had been published in Germany as early as 1783(3). The oldest living psychiatric journal in continuous publication is *Annales Médico-psychologiques*, founded in 1843. *Allgemeine Zeitschrift für Psychiatrie* was founded in the following year. Thus, the *American Journal of Psychiatry*, along with its German counterpart, is the second oldest journal in continuous publication.

⁴ This was a great decade in medicine generally. Claude Bernard began his studies on the glycogenic function of the liver, and Virchow began his pioneering work that culminated in his conceptions of cellular pathology. In America, the use of ether in surgical anaesthesia was demonstrated at the Massachusetts General Hospital, and Oliver Wendell Holmes read his paper "On the Contagiousness of Puerperal Fever" before the Boston Society for Medical Improvement.

¹ Read at the 117th annual meeting of The American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

² Institute of Psychiatric Research, Indiana University Medical Center, Indianapolis, Ind.

to shape the development of forensic psychiatry in America for many decades, was published in 1838(13). In 1841, Dorothea Dix secured a judicial order requiring that more heat be provided for the hospitalized insane in a Massachusetts prison, and her humanitarianism had more and more influence. The present analysis of trends in American psychiatry begins then in 1844, with the earliest issues of the American periodic psychiatric literature.

*Collection and Analysis of Data*⁵

The papers appearing in four national, general psychiatric journals, were surveyed in the study as follows:

1. *The American Journal of Psychiatry*. The articles that were analyzed appeared in every fifth year's volume from 1844 to 1940 and in each year's volume from 1941 to 1960. Because of the small size of the earliest issues, the papers published in 1844 and 1845 were combined. The journal was published 4 times a year until 1930, 6 times a year until 1947, and monthly since that time. In 1921, the name was changed from the *American Journal of Insanity* to its present one.

2. *The Journal of Nervous and Mental Disease*. The papers analyzed were from every fifth year's volume from 1874 to 1940 and those from each year's volume from 1941 to 1960. This journal was published 4 times a year until 1890, but monthly since then. The first two issues, published under the earlier name of the *Chicago*

Journal of Nervous and Mental Disease, were combined in this survey.

3. *The Archives of General Psychiatry*. The papers from each year's volume from 1941 to 1960 were surveyed. Until 1958, the earlier name was the *Archives of Neurology and Psychiatry*. It has been published monthly during the period surveyed.

4. *Diseases of the Nervous System*. The papers of each year's volume from 1941 to 1960 were included. This journal is published monthly.

Only full-length articles were included in the analysis, and those dealing primarily with neurological topics were excluded. The present combined circulation of the four journals is over 34,000. The total number of individual articles included in this statistical study is 6,882.

All articles surveyed were classified according to the general category of the subject matter of the paper and the profession and geographical location of the author. In addition, when applicable, papers were classified as to 1. The etiological emphasis stated or implied in the paper; 2. The category of treatment or treatments described; and 3. The type of basic research reported. The present report concerns only two of these: the general subject category of the papers and their etiological emphasis when one exists.

General Subject Category

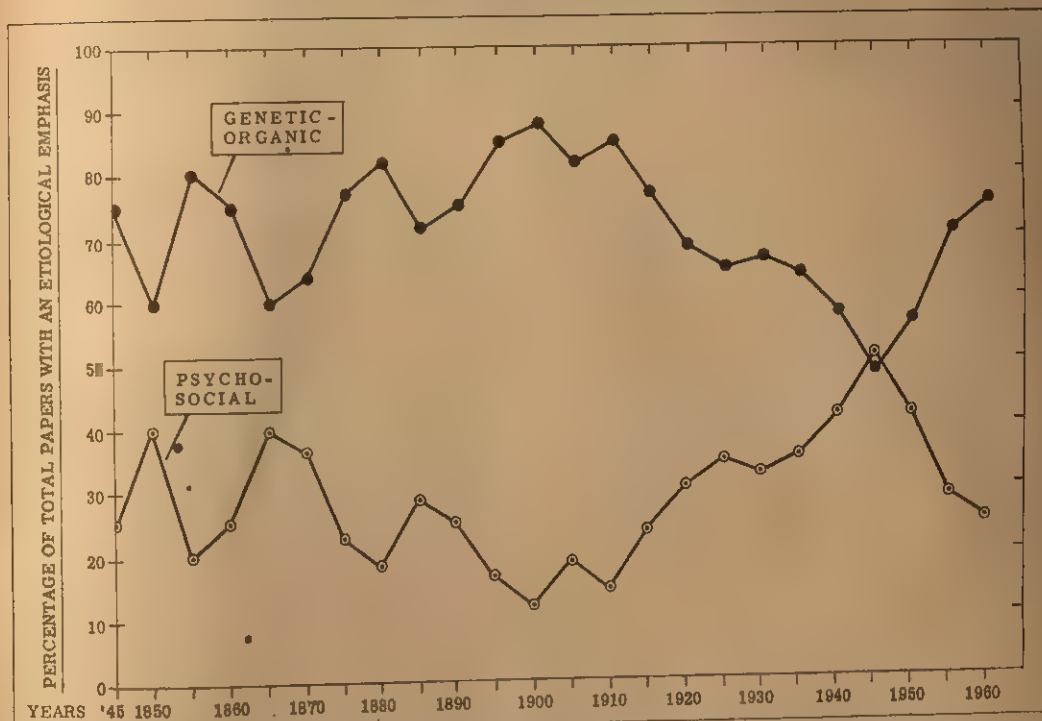
The articles appearing in psychiatric journals could be classified in countless ways, and any system of classification is arbitrary to some extent. In this report, all papers were classified into one of 8 subject categories according to their main focus of interest; the system was intended to correspond in part to some hypotheses about trends in American psychiatry. Of course, alternative systems of classification will occur to the reader, as, for example, classification along diagnostic lines (schizophrenia, drug addiction, etc.), or type of practice (military psychiatry, institutional practice, private practice, etc.). Although the 8 categories selected were carefully defined to avoid overlapping, some papers presented special problems as to which of two categories was more appropriate, and a judgment had to be made for such "borderline"

⁵ Of course, it could be argued that the present analysis does not reflect publication trends in general but only those of the 4 journals surveyed. The number of American journals of psychiatry indexed in the *Quarterly Cumulative Index Medicus* (and its successor, *Index Medicus*) rose from 6 in 1920, to 7 in 1930; 15 in 1940; 18 in 1950; and 25 in 1960. Many of the newer journals are more specialized and attract papers that might otherwise have appeared in the journals surveyed (e.g., *Quarterly Journal of Studies on Alcohol*, *Journal of Neuropsychiatry*). The publication of articles relating to psychiatry in the annals of related disciplines (psychology, neurophysiology, etc.) is a confounding factor also. Nevertheless, the 4 older journals used in this study, all now monthly publications of large circulation, probably reflect rather faithfully the broad trends in interest and viewpoint that have occurred.

cases. The limits of each category will be defined as the category is discussed in the analysis of trends below. Figure 1 shows

separate analysis was made of the particular etiological factors emphasized in the papers surveyed. This analysis includes not only

FIGURE 1
Percentage of Papers in Each of 8 General Subject Categories
The Papers Appearing in 1844 and 1845 Have Been Combined



the percentage of papers falling into each of the 8 subject categories at 5-year intervals. Note that the percentage contributions of the 4 categories shown in the upper part of Fig. 1 (etiology, forensic psychiatry, administration, and diagnosis-description) have tended to decrease, especially in recent decades. On the other hand, the categories shown in the lower part of the figure (treatment, basic research, teaching-training, and other) have tended to increase. These trends will be discussed in more detail.

Etiology

Papers were classified under "etiology" only if their primary focus was the exploration of some etiological hypothesis concerning psychiatric disorders. No clear trend in the percentage of papers in this category is apparent (Fig. 1). However, a

those papers dealing primarily with etiology, but all papers in which some etiological orientation or assumption is either stated or implied. For example, clearly recognizable etiological biases are detectable in many papers dealing chiefly with research or treatment.

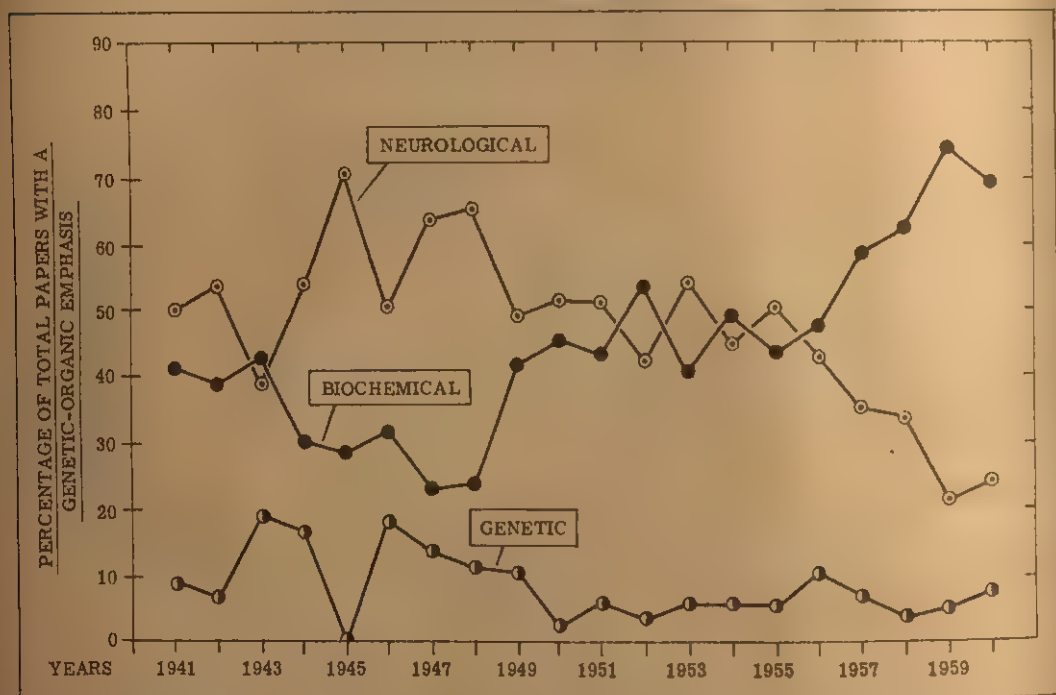
Five categories were used in the classification of papers according to their etiological emphasis: genetic-constitutional, biochemical, neurological, psychological, and social. Of course, multiple etiological factors are cited in many psychiatric articles; but the etiological factor or determinant being stressed or explored in the paper determined its classification. Because of the small number of papers available from the earlier literature, only two broad groups were used in the first analysis. Papers emphasizing genetic, biochemical, or neurological factors were grouped together under

the rubric "genetic-organic"; those emphasizing psychological or social factors were grouped as "psycho-social." These data are shown in Fig. 2.

great strides were being made in an understanding of the physical basis of psychological functioning and mental disorder. In 1822, Bayle reported an association be-

FIGURE 2

Trends in the Relative Frequency of Reports Emphasizing Genetic-organic and Psycho-social Etiological Factors
The Data from 1844 and 1845 Have Been Combined



The etiological conceptions of the 18th and early 19th century were pervaded by ideas of mental illness as demonic possession, or the consequences of intemperate living(5), and do not fit easily into the present dichotomy. Although these moralistic conceptions have never completely disappeared from psychiatric thought, their influence on even the earliest issues of the *American Journal of Insanity* appears minor. The literature of the first two decades covered in the present survey shows a high percentage of papers stressing genetic-organic etiological factors (Fig. 2). This may seem surprising at first since the period is associated with a growing awareness of the importance of social and psychological factors in the development of psychiatric disorders, and the development of a system of moral or psychological treatment. However, this is also a period when

tween general paresis and a chronic inflammation of the meninges. Gall's conception of functional localization in the brain had a great influence on the psychiatric thinking of the time; this is clear in the writings of Amariah Brigham and others (16). Many of the staunchest advocates of the moral treatment of the insane recognized that the efficacy of psychological measures in no way precludes the possibility of an organic origin of their disorders. This was true of Pinel who derives much of his fame from his plea for psychological measures for both humane and therapeutic reasons in his classical treatise, "Traité médico-philosophique sur l'Aliénation Mentale." In the same monograph, however, he speculates on the likely origin of some forms of mania in the abdominal viscera(12):

The preludes of the invasion and return of

manical attacks may be various; but it seems, in general, that the primary seat of this alienation is in the region of the stomach and the intestines, and that from this centre it propagates itself, as it were, by irradiation, and deranges the understanding

This same juxtaposition of the concept of mental disorder as physical disease and arguments for the efficacy of psychological management appears in the early American literature. The first issues of the *American Journal of Insanity* contain many papers which stress the importance of the personal, social, and recreational needs of the hospitalized insane. At the same time, one finds statements such as the following from the second issue of the journal(3):

We [the editors] consider insanity, a chronic disease of the brain, producing either derangement of the intellectual faculties, or prolonged change of the feelings, affections, and habits of the individual.⁶

Genetic-organic conceptions of psychiatric disorder continued to predominate in the decade which followed. A further increment appears in the 1860's and '70's (Fig. 2). In Germany, the moralistic conceptions of Heinroth were being supplanted by the neurological ideas of Griesinger, which were to dominate German psychiatry and influence psychiatric thought over the world for many years. Griesinger's classical monograph, "Pathologie und Therapie der psychischen Krankheiten," first available in English in 1862, begins with an assertion which portends the main direction of psychiatric thought for the rest of the century: "Mental diseases are brain diseases." Griesinger's influence on the

course of American psychiatry was at times very direct; some of his writings were reprinted in translation in the American literature, and his conviction of a basis in pathologic anatomy for mental disorders was always clearly stated. In an 1865 issue of the *American Journal of Insanity*, he states(8): "In the present state of our knowledge of mental disorders, we are called upon to recognize in them the symptoms of lesions of the brain and nerves; . . ."

Impetus was added to the search for brain lesions in cases of mental disorder by the development of new staining techniques by Golgi, Ramon y Cajal, Weigert, and others, and by the neurophysiological discoveries of such men as Meynert and Hughlings Jackson. Pathological laboratories were set up in many mental hospitals, and exhaustive gross and microscopic analyses of the brains of mental patients were undertaken. Additional impetus was gained from the success of neuropathologic approaches in the discovery of new disease entities associated with psychic disturbances. Bourneville described tuberculous sclerosis in 1880; Pick, lobar atrophy in 1892; Alzheimer, presenile dementia in 1903, etc.(9).

Theories of mental illness as forms of progressive hereditary degeneracy became popular, especially in France(1). The appellation "incurably insane" began to appear in the American literature in the closing decades of the century. Another facet of the genetic-organic orientation is apparent in the theories of mental disorders as the result of "nervous exhaustion," auto-intoxication, and the like prevalent at the time. These formed the rational basis, in part, of the Weir Mitchell rest treatment of nervous disease. The genetic-organic emphasis reached its apogee at the turn of the century and persisted for several decades as evidence grew for a causal relationship between syphilis and some form of insanity(10, 14); and, in 1913, Noguchi and Moore demonstrated *treponema pallida* in the brains of paretic patients.

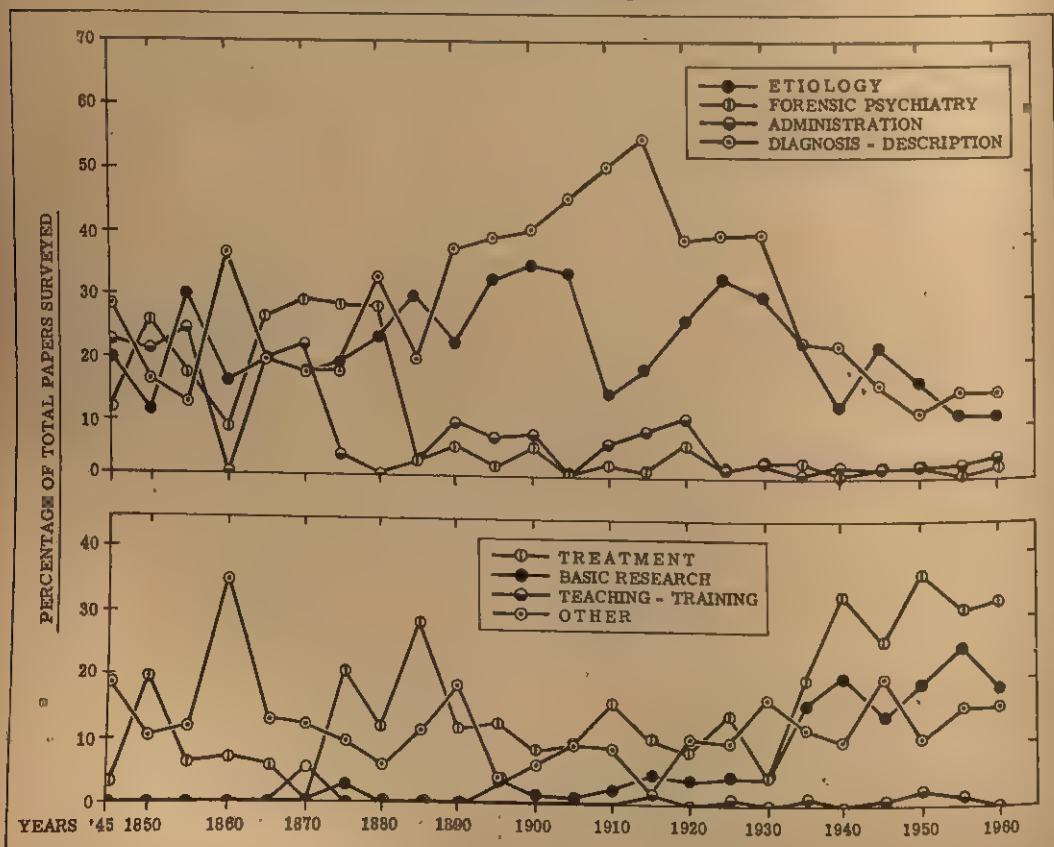
Beginning in the second decade of the 20th century, psychosocial etiological factors again began to account for a significant percentage of the articles surveyed (Fig. 2). The seeds of this trend had been sown

⁶ Many of the specified etiological conceptions of the psychiatrists of this period appear naive, if not fanciful, to us today. A case report of 1845 describes a 15-year-old boy afflicted with a "violent but platonic passion for a lady more than 40 years of age." The author ascribes this derangement to physical causes: "The disease which led to these terrible results had its origin in a blow on the head with the end of a round ruler—one of the gentle reprimands then so common with school masters." Another patient, described in the same issue, is subject to fits of violence and paranoid ideation which is attributed to psychological causes: "Abstruse but vain philosophical inquiries of the mind in health."

30 years earlier in neurological clinics in Paris, at the Salpêtrière under Charcot, and in Nancy under Bernheim. These men and their students (Janet, Forel, Freud, and others) studied hypnosis and its relationship to hysteria, and laid the foundation of modern dynamic psychotherapy. In 1909, Freud visited America; and papers describing psychoanalytic theory and technique by A. A. Brill, Ernest Jones, and others began to appear in number in the American psychiatric literature. In 1911, the American Psychoanalytic Association was founded. The search for the basis of major psychiatric disorders in brain lesions had proved disappointing, aside from general paresis, the psychological accounts of mental illness, aided by the apparent success of analytic techniques in the understanding and treatment of the neuroses, became more numerous. Adolf Meyer's conceptions embodied in the term "psycho-

biology" and Bleuler's contribution to schizophrenia added to the trend. In the present survey, the psycho-social emphasis reached its height in the 1940's, before the reverse trend began once again (Fig. 2). This last reversal probably had its origin in the previous decade, when the somatic therapies were discovered and stimulated greater interest again in the physical basis of mental disorder. The psycho-social approach with respect to the major psychoses was in turn proving disappointing. This approach provided no more definitive account of the etiology of psychosis and no more definitive treatment than had been realized by the neuropathologists of earlier decades. The very rapid rise in the genetic-organic emphasis in the 1950's (Fig. 2) is probably related to the impressive advances in the understanding of brain function and behavior in all their ramifications resulting from basic-science approaches and develop-

FIGURE 3
Trends in the Relative Frequency of Reports Emphasizing Genetic,
Biochemical and Neurological Etiological Factors



ments in psychopharmacology. The details of these developments will be traced in a later report.

Figure 3 shows a year-by-year analysis from 1941 to 1960 of the papers classified under genetic-organic etiological emphasis into the 3 main subgroups: genetic, biochemical, and neurological. Over the last 5 years, the neurological emphasis is gradually being replaced by the biochemical. This change is probably related to recent rapid developments in clinical and experimental psychopharmacology, interest in psychomimetic drugs and the study of model psychoses, and the renewed interest in the search for biochemical correlates of normal and aberrant behavior.

There have been, of course, many subcurrents in the ebb and flow of emphasis given to organic and psychological determinants of mental disorder that are not apparent in the present statistical analysis of trends. There have been changes also in the depth and sophistication of etiological accounts of mental disorder at different times, that we recognize as progress. We trust that the seemingly circular course of psychiatric thinking may be likened, as Thomson observed 70 years ago (17), "...to a spiral ascent, opinion repeatedly coming round toward former positions, but each time above, rather than at the level of the older views."

Forensic Psychiatry

All papers dealing primarily with legal aspects of psychiatry were placed in this category. As Fig. 1 shows, forensic psychiatry claimed a high percentage of the early American psychiatric literature. New and more liberal legislation with respect to the mentally ill was a natural concomitant of the great social reforms spurred by Pinel, Esquirol, and their successors. The fathers of American psychiatry, men of great humanity, addressed themselves with vigor to the problems of criminal responsibility of the mentally ill and the adequate protection of the mentally incompetent. As mentioned earlier, Isaac Ray wrote an important monograph on problems of medical jurisprudence in 1838 (13). New psychiatric journals appeared in 1853 and 1867 which, although short-

lived, gave special attention to legal problems.⁷ This attention sharply declined toward the end of the century, giving way to the growing preoccupation with etiology and interest in diagnosis and description (Fig. 1). Of course, there is still great interest in forensic psychiatry, but it constitutes a smaller percentage of the more recent psychiatric literature, the greater portion being devoted to the categories of psychiatric interest shown in the lower portion of Fig. 1.

Administration

Papers dealing with the organization of psychiatric hospitals and clinics, logistic aspects of patient care, and managerial problems in institutional psychiatry were categorized as administration. This category also claimed a high percentage of the early American literature, since this was a time of hospital construction and awakened concern for the physical environment of patients. However, papers dealing primarily with administrative problems have been less numerous since these early decades (Fig. 1).

Diagnosis-Description

Papers dealing chiefly with descriptive case reports, the delineation of psychiatric syndromes, and problems of diagnosis were placed in this category. About 25% of papers fell into this group until the 1890's, when interest in detailed clinical description and the classification of mental disorder was stimulated by Kraepelin. His monumental textbook *Kompendium der Psychiatrie* had first appeared in 1883. As greater varieties of psychological disorders were delineated, and alternative nosological systems were proposed and argued, this category came to outnumber all others combined (1915 in Fig. 1), but it declined also as new ideas and discoveries claimed psychiatric attention in the decades which followed.

Treatment

Papers focusing chiefly on the treatment of psychiatric disorders were classified here. As might be expected, this category has

⁷ These were the *American Psychological Journal*, founded by Edward Mead in 1853, and the *Quarterly Journal of Psychological Medicine and Medical Jurisprudence*, founded by William A. Hammond in 1867.

shown a steady rise with the development of the somatic therapies in the 30's, psychopharmacologic agents in the 50's, and psychotherapeutic techniques throughout this period. It has been the single largest category in the papers surveyed since 1940 (Fig. 2). A more detailed analysis of these trends and the types of treatment reported in the literature will be reviewed later.

Basic Research

Papers reporting experimental studies, whether on animal or human subjects, were categorized under basic research. Papers reporting clinical data, even though systematically collected and analyzed, were placed instead in the category of their primary focus (treatment, diagnosis, etc.). Papers were placed in this group only if they were reports of basic-science techniques applied to psychiatric problems (e.g., biochemistry, neurophysiology, experimental psychology). This category also has shown a steady rise during the last three decades, and in recent years is second only to treatment in the percentage of papers surveyed (Fig. 1). This rapid rise was observed also by Smith, *et al.* (15), in their survey of 16 years of the *American Journal of Psychiatry*. A more detailed analysis of these data will be reported later.

Teaching-Training

All papers dealing with some aspect of education or training in the mental health field (medical students, general practitioners, nurses, psychiatric residents, etc.) were placed in the category teaching-training. In recent years, this category has consistently claimed a significant percentage of the psychiatric literature. The greatest number is found in the post World War II period, when there was a rapid expansion in residency training programs in psychiatry, postgraduate courses for practicing physicians, and a renewed look at teaching and training in the mental health area at all levels (Fig. 1).

Other

Many papers surveyed in this study presented special problems in classification, and in a few instances almost arbitrary choice had to be made between two con-

tending categories. In addition, some papers fell into none of the previously described 7 categories; these were classified as *other*. These papers were either highly theoretical (and not concerned with etiology, diagnosis, or any of the other categories even indirectly) or dealt with subjects not traditionally within the ken of psychiatry. It is interesting to note the sharp rise in this category in the post World War II period (Fig. 1). Psychiatrists took stock of themselves and their specialty, examined the boundaries of their field, and sought to apply their psychiatric information and insights to many broad problems facing the nation and the world. Thus, papers appeared on the relationship of psychiatry to other disciplines (e.g., "The relation of psychiatry to psychology"), the relationship of psychiatry to the public (e.g., "What the public thinks of psychiatry"), broad social and political questions (e.g., "War crimes," "Psychiatry and international understanding"), etc.

SUMMARY

Publication trends in American psychiatry were examined by means of a large sample of the psychiatric literature from 4 general psychiatric journals over a 117-year period. This paper concerns the general categories of subjects treated in the literature and changes in etiological emphasis. In later reports, trends in treatment, research and other categories will be traced.

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EVALUATION AND FOLLOW-UP OF STATE HOSPITAL PATIENTS WHO HAD SANITY HEARINGS^{1, 2}

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At times our society seems preoccupied with the concept of freedom, and by legislation has adopted safeguards for it. However, we find that only a few of those psychiatric patients who have been hospitalized against their wishes make any real efforts to obtain their freedom. They appear either to realize their need for treatment or else they are too sick to seek such freedom.

In most jurisdictions the use of the writ of habeas corpus(1, 12), when applied to hospitalized patients, has referred specifically to matters of legal technicality such as proper procedure, signatures, forms, *etc.*, while the determination of the need to continue hospitalization has been considered separately and is usually referred to as a sanity hearing. Michael and Wechsler define the criteria for release as(17)

Generally, a person committed as insane or feeble minded is not to be released until in the judgment of the superintendent of the institution or of a court he has "recovered" or been "restored to his reason or his 'right mind' or is well enough to be released, or it is no longer dangerous for him to be at large."

In Maryland, the test applied at a sanity hearing(22, 23) essentially is

... or, "by reason of mental disease he is a danger to himself, to his own safety, or a menace to the safety or the person and or the property of other people" if at large.

This is essentially the test in most states at the present time(8, 12, 17, 18).

The procedure for obtaining a hearing

in Maryland is that the patient, hospital, or any other interested party writes the court requesting a sanity hearing. The court then asks the hospital its reasons for refusing to release the patient. A hearing is ordered unless certain technical requirements are not met, *i.e.*, improper jurisdiction, too soon since last hearing, *etc.*

Being familiar with such hearings we began to wonder about what type of patient requested a hearing and more particularly about what happened to the patients who were released by the courts and to those who were remanded, *i.e.*, returned to the hospital.

A review of the literature revealed no specific studies on a sanity hearing population. There are, however, several studies (2, 4-7, 9, 10, 13, 15, 20, 21, 26) on general psychiatric populations which reflect upon significant criteria for release as well as several studies with reference to extra-hospital adjustment rate. In summary, these articles suggest a satisfactory extra-hospital adjustment rate of 30%-50% in psychotic patients, when the adjustment is a ratio between the total released and those adjusting. Various studies gave prominence to occupational adjustment, lack of difficulties with police, and re-occurrence of hospitalization. Some also mentioned community factors which were significantly related to rate of discharge such as population density, *etc.*

As a result of these findings we sought to determine their relevance to a sanity hearing population. The following hypotheses were therefore considered:

1. There is a significant difference in the characteristics of court-released and court-remanded petitioners.

2. There is a significant difference in the percentages of satisfactory and unsatisfactory adjustment between a court-released group and a court-remanded group who subsequently are released by the hospital or elope.

3. There is a significant difference in the characteristics of the satisfactory and non-

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satisfactory adjustment groups.

The population investigated was obtained from Spring Grove State Hospital located near Baltimore, Md., which contains approximately one-half of the white state hospital population. The hospital records of all patients who had requested sanity hearings (or writs of habeas corpus) from October 24, 1951 to December 9, 1959 were examined and certain common statistical data were obtained. It was found that 104 different patients had petitioned for such hearings but that only 73 cases reached court. Of this group 26 were released by the court, the remaining 47 were remanded to the hospital from which 10 were eventually discharged and 12 eloped. For those patients who had more than one hearing and were never released, the last hearing at which they were remanded was used for the purpose of this study. For those who had several hearings and were released on one or more occasions, only the last hearing at which they were released was considered, and regardless of the fact that they were remanded at a subsequent hearing, they were considered in the released group. The eloped category was used for patients who eloped, and remained away from the hospital for over 6 months. Patients were considered as still being in the hospital even if they were on parole, foster care or had been directly transferred to another hospital where they still resided.

For all the patients released by the court, or discharged by the hospital, or who had eloped, an attempt was made to get a follow-up with respect to their community adjustment. For most cases, it was possible to obtain this information directly from the hospital records. For those who had eloped and not returned, or had been released by the court or discharged by the hospital and not returned to Spring Grove, the follow-up information was not obtained from the patients but by letter or phone from relatives, friends, attorneys, police, public health nurses, other institutions to which they were subsequently sent, etc. From the nature of our contacts with these people it was felt that the information obtained from them was accurate within the confines of our definition of satisfactory and unsatisfactory. In only one case were we

unable to obtain sufficient data to classify the adjustment.

Classification of adjustment was essentially a global evaluation requiring the concurrence of two of the authors. We defined as unsatisfactory anyone who was jailed, rehospitalized, not working or going to school regularly, etc. Patients were considered to have made a satisfactory adjustment if they had not been in serious trouble with the law, or rehospitalized and were regularly employed or caring for themselves adequately while retired, etc. (These criteria are in many ways similar to the Barrabee-Finesinger Scale(3).) The evaluation did not reflect upon the clinical status of these patients, as many of them—although adjusting satisfactorily—would be considered psychiatrically ill.

The "time of follow-up" was established as the time of our last information. In no case was this less than one year, the median value was 4 years and the mode 2 years.

RESULTS

On Chart 1 are seen the characteristics

CHART 1

Group Characteristics Used As Criteria

1. Basis of admission :
Court commitment or 2 certificates
2. Religious affiliation :
Protestant, Catholic or Jewish
3. Sex :
Male or Female
4. Length of last hospitalization :
0-1 yr., 1-2 yrs., over 2 yrs.
5. Occupational level :
Profess., manage't, supervis., skid.,
or sales, semi-skid., and un-skid.
6. Number of previous hospitalizations :
0, 1, 2 or more
7. Age :
to age 19, 20-39, 40-59, 60-79
8. History of excessive alcohol :
Yes or No
9. Diagnosis :
Psychotic, organic, personality disorder
10. Educational level :
0-6, 7-12, 13+
11. Marital status :
Single, married, widow, div. or sep.

upon which the patients are compared and

CHART 2
Percentage Distribution and Chi Square Values Associated With the
Non-discriminating Remanding Criteria

			REMANDED		RELEASED	
1. Basis of admission :						
Chi Sq.	0.53	Court Comm.	55%	(26/47)	46%	(12/26)
		Two Cert.	45%	(21/47)	54%	(14/26)
2. Religious affiliation :						
Chi Sq.	0.69	Protestant	66%	(31/47)	60%	(15/25)
		Catholic	30%	(14/47)	32%	(8/25)
		Jewish	4%	(2/47)	8%	(2/25)
3. Sex :						
Chi Sq.	0.95	Male	89%	(42/47)	96%	(25/26)
		Female	11%	(5/47)	4%	(1/26)
4. Length of last hosp. :						
Chi Sq.	1.34	0-1 yr.	42%	(20/47)	35%	(9/26)
		1-2 yrs.	19%	(9/47)	31%	(8/26)
		Over 2 yrs.	38%	(18/47)	35%	(9/26)
5. Occupational level :						
Chi Sq.	1.47	Profess.	32%	(15/47)	46%	(12/26)
		Manage.				
		Supervis.				
		Skilled				
		Sales	68%	(32/47)	54%	(14/26)
		Unskilled				

the manner in which we defined them.

Chart 2 are those factors which do not discriminate between the released and remanded groups. The chi square values did not approach the 10% level of significance. The numbers in parentheses are the absolute frequencies for each group.

The characteristics which discriminated between these two groups are shown on Chart 3. The first 4 items suggest our first hypothesis at the 10% level, and the last one at the 5% level.

A comparison of the frequency of type of adjustment between the three released groups is shown in Chart 4. It is noted that 44% of the court released, 30% of the hospital discharged (after remanded) and 42% of the eloped (after remanded) all made a satisfactory adjustment as defined by our criteria. Statistically there is no significant difference between these 3 percentages. We would like to add that in no group did serious antisocial behavior occur.

Chart 5 shows our attempt to deter-

mine whether the criteria which differentiated the court released from the court remanded population could also be used to distinguish between the 2 groups which had made satisfactory and unsatisfactory adjustments. The chi square values do not indicate any significant differences for the criteria considered.

DISCUSSION

These results emphasize two factors which we feel merit consideration. They are the 30%-40% satisfactory adjustment rate and the implication that the hospital is unable to prognosticate significantly better than the court. Before discussing these factors we would like to comment upon those results which do not appear to differentiate our population.

With reference to the remanding criteria we could find no literature to substantiate or contradict the findings that sex, basis of admission, length of previous hospitalization, religion or occupational level were of

CHART 3
Percentage Distribution and Chi Square Values Associated With the
Discriminating Remanding Criteria

			REMANDED		RELEASED	
6. Number of previous hosp. :						
Chi Sq.	4.91 *	0	74%	(35/47)	54%	(14/26)
		1	19%	(9/47)	23%	(6/26)
		2 or more	6%	(3/47)	23%	(6/26)
7. Age :						
Chi Sq.	6.14 *	to age 19	13%	(6/47)	23%	(6/26)
		20-39	55%	(26/47)	27%	(7/26)
		40-59	26%	(12/47)	31%	(8/26)
		60-79	6%	(3/47)	19%	(5/26)
8. History of excessive alc. :						
Chi Sq.	2.90 *	Yes	23%	(11/47)	42%	(11/26)
		No	77%	(36/47)	58%	(15/26)
9. Diagnosis :						
Chi Sq.	5.02 *	Psychotic	72%	(34/47)	46%	(12/26)
		Organic	19%	(9/47)	35%	(9/26)
		Person. Dis.	7%	(4/47)	19%	(5/26)
10. Educational level :						
Chi Sq.	5.20 *	0-6	33%	(15/46)	38%	(10/26)
		7-12	61%	(28/46)	38%	(10/26)
		13+	6%	(3/46)	23%	(6/26)
11. Marital status :						
* Chi Sq.	9.24***	Single	53%	(25/47)	38%	(10/26)
		Married	19%	(9/47)	23%	(6/26)
		Widow	4%	(2/47)	27%	(7/26)
		Div. or Separated	23%	(11/47)	12%	(3/26)

* .10 level of confidence.

** .05 level of confidence.

any discriminating value, and we personally have no reason to question these results.

That none of the characteristics evaluated could differentiate the satisfactory from non-satisfactory adjusting group is disappointing but not too surprising. Farina and Webb(9) in evaluating the rate of readmission of male paranoid schizophrenics

with less than 9 months' hospitalization found no significant difference in age at first admission or grades completed, between groups staying out of the hospital at least 18 months and those returning before then. And, although a number of papers(4, 5, 9, 10, 13, 15, 20, 25) suggest a differential rate of adjustment for various clinical groupings, it is perhaps because of

CHART 4
Percentage Distribution and Chi Square Values Associated With Adjustment Rates

		COURT RELEASED		HOSP. RELEASED		HOSP. ELOPED	
Satis. adj.	44%	(11/25)		30%	(3/10)	42%	(5/12)
Unsatis. adj.	56%	(14/25)		70%	(7/10)	58%	(7/12)

Chi Sq.=.57 d.f.2 $P > 0.10$.

No significant difference in the adjustment rate on the basis of method of release.

CHART 5
Percentage Distribution and Chi Square Values Derived from Comparison of Characteristics of
Satisfactory and Non-satisfactory Adjustment Groups

			SATISFACTORY		NON-SATISFACTORY	
1. Basis of admission :						
Chi Sq.	0.69	Court Comm.	39%	(7/18)	52%	(15/29)
		Two Certif.	61%	(11/18)	48%	(14/29)
2. Religious affiliation :						
Chi Sq.	0.66	Protestant	72%	(13/18)	59%	(17/28)
		Catholic	22%	(4/18)	31%	(9/28)
		Jewish	6%	(1/18)	7%	(2/28)
3. Sex :						
Chi Sq.	0.00	Male	89%	(16/18)	90%	(26/29)
		Female	11%	(2/18)	10%	(3/29)
4. Length of last hosp. :						
Chi Sq.	3.21	0 to 1 yr.	55%	(10/18)	34%	(10/29)
		1 yr.-2 yrs.	27%	(5/18)	24%	(7/29)
		Over 2 yrs.	17%	(3/18)	41%	(12/29)
5. Occupational level :						
Chi Sq.	0.69	Professional	39%	(7/18)	28%	(8/29)
		Management				
		Supervisory				
		Skilled				
		Sales	61%	(11/18)	72%	(21/29)
		Semi-skilled				
		Unskilled				
6. Number of previous hosp. :						
Chi Sq.	0.00	0	67%	(12/18)	75%	(21/29)
		1	17%	(3/18)	14%	(4/29)
		2 or more	17%	(3/18)	11%	(3/29)
7. Age :						
Chi Sq.	1.29	to age 19	17%	(3/18)	24%	(7/29)
		20-39	39%	(7/18)	41%	(12/29)
		40-59	27%	(5/18)	28%	(8/29)
		60-79	17%	(3/18)	7%	(2/29)
8. History of excessive alc. :						
Chi Sq.	0.29	Yes	33%	(6/18)	41%	(12/29)
		No	67%	(12/18)	59%	(17/29)
9. Diagnosis :						
Chi Sq.	1.36	Psychotic	67%	(12/18)	52%	(15/29)
		Organic	17%	(3/18)	31%	(9/29)
		Person. Dis.	17%	(3/18)	17%	(5/29)
10. Educational level :						
Chi Sq.	1.21	0-6	33%	(6/18)	41%	(12/29)
		7-12	44%	(8/18)	48%	(14/29)
		13+	22%	(4/18)	10%	(3/29)
11. Marital status :						
Chi Sq.	1.44	Single	39%	(7/18)	48%	(14/29)
		Married	27%	(5/18)	38%	(11/29)
		Widow				
		Sep.	33%	(6/18)	14%	(4/29)
		Divorced				

our coarser groups that we found no such relationship. The literature appeared to be restricted to these criteria.

Returning to our initial findings (the 30%-40% adjustment rate) we find that numerous follow-up studies (2, 4-6, 10, 13, 20, 26) have repeatedly found that approximately 30%-50% of psychiatric patients make an adequate extra-hospital adjustment. We believe that this report further validates this phenomenon and extends it to those who request sanity hearing regardless of their psychiatric diagnosis. It is interesting to note that in a study by Zeidler (26) on a "maximum security" population the adjustment rate was also 30%.

Perhaps a key to understanding this phenomenon might well be sought in these particular patients. They are essentially integrated enough to demand their release from the hospital and to follow this up with the necessary letters, etc. Perhaps this is a factor which then, despite the hospital's forebodings, makes them at least equal in terms of adjustment to those whom the hospital willingly discharges. There might also be some "integrating" effect derived from being released by a court since Maryland is one of the few states that does not require judicial proceedings for involuntary hospitalization.

Next let us look at our second factor, i.e., the court's and hospital's predictive ability. The comparison between court released and hospital released adjustment rates shows no significant difference in the predictive accuracy of either institution. But, these selections were made at different times, with the court being required to make a decision when the hospital felt that the patient should not be released. In this latter sense, the court may be considered as having a better prediction rate since they released patients that otherwise would not have been released at that time.

Within the limits of a 10% and better level of confidence we were able to differentiate the court released and court remanded groups via several factors. The court tended to release alcoholics, non-schizophrenics, widowers, those who had several previous hospitalizations, and higher educations and were over 40.

Our speculations on these findings are

that by legal precedent, it is seen as difficult to remand a sobered person who professes cure and does not appear psychotic. Moreover, the differentiating criteria reflect characteristics usually associated with individuals assumed to be more responsible and capable of controlling their behavior. Also those who have had several previous hospitalizations and have not been in serious difficulties while in the community certainly appear as safe risks. The person with florid schizophrenic symptoms is understandably sick; however, the forgetful, slightly confused organic or the pleasant character disorders do not seem "dangerous."

Why the court does not necessarily equate psychopathology, as defined by clinicians, with dangerous behavior can be more readily understood if we examine the situations that it encounters.

The court is frequently faced with divergent psychiatric testimony, the presentation of facts in an adversarial manner via explanations, cross examinations, and rationalizations of attorneys, and the daily appearance of litigants whom the psychiatrist would often consider seriously ill. Moreover, there is further the fact that the judge sees those who have been involved in serious antisocial behavior more frequently than the psychiatrist, and we may therefore wonder whether the court's greater contact with criminal behavior does not result in different expectations with reference to community adjustment (14).

Now let us look at the hospital's position in this situation. One very important factor appears to be the pressure exerted by the patient's family against releasing the patient. It is certainly difficult to evaluate the homicidal potentialities of a clearly alcoholic, paranoid schizophrenic whose wife relates a history of beatings and continues to implore the hospital not to release her husband. At other times, family pressure is exerted for the patient's release, usually by families who never really accepted the need for hospitalization or who demanded the same and now feel guilty. Many times the doctor sees the home environment as being a causal factor in the patient's illness and is loath to return a still sick person to the same situation. In these situations the hospital's

knowledge of psychodynamics, which permits a deeper understanding of the personality, is used in an attempt to increase the ability to predict behavior under various circumstances.

The vested interests of the hospital and profession must also be considered. At this particular hospital the superintendent was a leader in the treatment of alcoholism and the hospital had an established treatment program. We would assume that this factor greatly influenced the hospital's reluctance to release an alcoholic when they still believed him to be ill. Finally, there is the tendency of the hospital to look upon a poor adjustment as an indicator of a poor extra-hospital adjustment. That this may not be so is exemplified by those patients who eloped after being remanded. For them it might have been that the hospital environment was, so to speak, ego dystonic while the community at large, or at least avoidance of being hospitalized, was "integrating."

None of the patients, regardless of how released, committed any so-called serious crimes such as murder, rape, arson or aggravated assault, a finding similar to that of Hastings(13), and certainly not inconsistent with the report of Cohen and Freeman(6), or that of Malzberg(24). It is only fair to add, however, that our non-satisfactory patients, regardless of how released, were involved in a number of minor assaults, auto accidents, auto thefts, burglaries, etc.

As a result of this study and discussion we cannot agree with a recent article by Dr. Thomas Szasz(25), in which he implies that the determination of dangerousness in psychiatric patients be reserved for the hospital. Our opinions are more in line with those of Katz and Goldstein(11, 16); we also believe that there remains a need for the hospital to want and to be required to go to the community via the court in those situations where the patient demands release and the hospital cannot in good conscience release him(19). In conclusion, we concur with Davidson's(8) opinion that

The judicial determination does not challenge a medical diagnosis: it determines, rather, a sociologic finding—that the petitioner would or would not be dangerous; or that the find-

ings do or do not fall within the legal definition of 'insanity.'

SUMMARY

1. Seventy-three patients who had sanity hearings were evaluated with reference to general historical data and social adjustment.

2. Of these 73, 26 were released by the court; 44% of these made a satisfactory adjustment. The remainder were remanded to the hospital; 10 were eventually discharged and 30% made a satisfactory adjustment; 12 eloped and 42% of these made a satisfactory adjustment.

3. Comparisons are made for criteria differentiating these groups and an attempt is made to relate these findings to other studies.

4. The present results are also discussed in the context of court and hospital functioning.

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DISCUSSION

ADDISON M. DUVAL, M.D. (Jefferson City, Mo.).—As a state mental health program director, I find this an interesting and provocative report. It seems to stimulate as many questions as it answers. I would direct your attention to a few of these.

- Many staff psychiatrists will be disappointed to know they can predict a patient's future adjustment no better than the court and just possibly not as well; as in the cases studied here, the psychiatrist made the first value judgment and only his rejections got to the court for consideration.

The point is made that many patients do not seek discharge because 1. They realize they are sick or 2. They are too sick to seek freedom. Other reasons, of course, could be added, such as rejection by the family, personal reasons of apathy or indifference, or even personal preference related to the dependency situation created in the hospital and related to the ease of living.

I would ask the authors why they considered patients on visit or leave from the hospital or in nursing or foster homes as still in the hospital? This group may have different characteristics than those actually remaining in the hospital full time.

I wonder whether the time of follow-up has a more important significance than the authors attributed to this factor? Would a

check time of 6 months, 1 year, or 18 months for all patients studied have changed the results?

The point that the court is often faced with divergent psychiatric testimony is, of course, true; but we still do not know the main criteria—if any—on which the court consistently based its final judgment. What were these criteria?

The authors seem to infer that the psychiatrist's "deep understanding" of the patient may interfere with his release. I suspect this needs further exploration. One wonders whether the attitude of the psychiatrist toward his responsibility role as a release officer of the hospital and toward the avoidance of mistakes may be a more important factor in the release of patients than his understanding of the psychopathology which may be present. We know that the rate of discharge of patients from public mental hospitals is easily manipulated and controlled and in some places is not directly related to the quantity or quality of symptoms still seen in the patients affected.

In my opinion, the authors are correct in saying that the hospital environment may be "ego dystonic" while the community may have a more integrating influence on some patients. This seems in keeping with our growing experience with remotivation techniques, half-way houses, day and night hospitals and with our studies of the hospital as a therapeutic community.

It would be interesting to know why some patients petition the court directly, why some wait for discharge and why others elope. As the final adjustment rate for all groups is similar, what determines the routes to be taken? Are there specific selective factors here? Also, why do only 73 of 104 patients who ask for court hearings get them? Answers to these questions might be revealing.

From this presentation, we may conclude that it is sound procedure for mental hospitals to work very closely with the courts, not only to promote better understanding of our mutual problems through improved communication, knowledge, and skills, but that it is only through such approach that we can finally bring together all these constructive social forces so necessary for a healthy community.

These authors have given us a sound and helpful report which merits our commendation.

AUTHORS' REPLY TO DISCUSSION •

We would like to thank Dr. Duval for his comments. To clarify some of the more formal aspects of the paper it should be stated that the reduction of our total number from 104 to 73

resulted from technical and situational factors, *e.g.*, failure to reapply after inappropriate application, family pressure to withdraw application, hospital release, A.M.A. Omission of patients on parole or in foster homes from the hospital release group was based on the assumption that these individuals had not attained independent status, *i.e.*, hospital release, court release, or eloped, and instead were still under hospital supervision. Determination of minimal follow-up interval was established by the population studied, *i.e.*, court applicants between 1951-1959. However, Dr. Duval's comments prompted a further review of our data which indicated that, while the incidence for satisfactory adjustment is fairly evenly distributed during the 10-year period ('51-'61), the occurrence of readmission is not. We find that in both the hospital eloped group and the court released group, the majority of poorly adjusted patients required readmission within 1 year. This does not occur in the poorly adjusted hospital release group—less than half of whom required readmission and this occurrence was distributed over a 5-year period. Unfortunately, our number for this sample is extremely small and these findings can only be considered trends. Nevertheless, they would suggest that length of follow-up interval becomes relevant, especially when considered in conjunction with method of release. Dr. Duval also raises pertinent questions concerning patient motivation for requesting sanity hearings and the bases upon which the hospital and court evaluated a patient. Unfortunately, all studies

leave unanswered questions and our data do not reveal any suggestions as to the sources of patient behavior. However, our findings do imply, as we have stated, that the court does tend to act more favorably towards petitioners who have demonstrated qualities of social appropriateness, *e.g.*, education, previous adjustment to community, marriage, and who at the time of their hearing did not manifest grossly inappropriate social behavior, such as delusions, hallucinations, or, inappropriate affect. We do not believe that a more basic universal can be obtained since each judge responds in his own individual manner. As we have stated, there are many factors that determine whether a patient will be released from a hospital. Certainly, one consideration is that the hospital wishes to avoid undue risks, and we again maintain that an understanding of psychopathology and clinical experience make the hospital wary of releasing individuals simply because they do not display gross behavioral disturbances. It is usually such patients who obtain relief through the courts. Our study has suggested that an equal percentage of these individuals make as good an extra-hospital adjustment as hospital released patients. We agree with Dr. Duval that this shows our need to improve our relationship with the courts; further, we believe that it shows also that there are apparently many factors to which we do not give sufficient relevance in forming our opinions. As psychiatrists we are expected to predict human behavior but we appreciate that other community agencies must also participate in these decisions.

A STUDY OF THE INFLUENCE OF EXPERIMENTAL DESIGN ON CLINICAL OUTCOME IN DRUG RESEARCH¹

BURTON S. GLICK, M.D., AND REUBEN MARGOLIS, A.B.²

During the past few years the psychiatric profession has been virtually inundated by the appearance in rapid succession of a multitude of new, different and potent psychopharmaceutical agents. The pace has been so swift that research investigation of these new preparations has experienced difficulty in keeping up with it. Serious questions are raised involving both ethical and scientific considerations. The former are concerned with the presence on the open market of drugs which have not been adequately assayed and which, at their best, may not perform as wished, and, at their worst, may cause incalculable physical and mental distress. The latter have to do with the degree of adherence to firmly established and generally accepted scientific principles. It is logical to assume that the more an experiment makes use of the scientific techniques and criteria which have been laboriously developed over the past 400 years, the more are its results to be trusted.

In the investigation of human psychophysiological responses to the new pharmacological agents the quest for scientific certainty becomes enormously complicated, possibly to a greater extent than in the physical sciences, by the huge number of variables and unknowns, often of a subtle, psychological nature, so that it is highly doubtful if we shall ever attain those profound and steady truths which are the goal, undoubtedly largely idealized, of all scientific endeavor. Our results gain in validity and approach the desired objective just to the extent that we can minimize, eradicate, or otherwise account for these variables.

Almost all investigators regard the dou-

ble-blind, placebo-controlled method as virtually a *sine qua non* of clinical drug research (1, 2, 3). For purposes of clarity we offer the following operational definitions of degrees of "blindness," with the understanding that the term "medication" refers both to active and inert (placebo) forms: double-blind means that neither investigator nor patient is aware of what medication the latter is receiving; single-blind indicates that the investigator but not the patient has knowledge of the medication administered; non-blind means that both investigator and patient know what medication is being given.

We do not put forth a hypothesis but rather ask a series of questions, to wit: Are we in a position to ascertain if the use of the double-blind, placebo-controlled method, which is generally regarded as the most important element in the construction of a carefully designed drug study, tends to result in less favorable estimates of clinical response than are to be found in those studies which do not use this technique? Can it be shown that, with increasing complexity and rigidity of experimental design, there will be a tendency on the part of observers to be more cautious and conservative in their ratings of clinical outcome? That is to say, is it possible that the somewhat chilly air of "science" tends to inhibit rash precipitancy?

The present paper consists of an appraisal of the research designs involved in 34 (all references except 1-4) published papers (actually 35 studies, since one of the papers describes 2 separate methods) dealing with the chlorpromazine treatment of chronic, hospitalized schizophrenics, in order to determine if the varying designs, with particular reference to "blind," placebo-controlled conditions, exerted any differential effect on ratings of clinical improvement. In each study we were concerned with the following: locale, patient-population characteristics, degree of "blindness," nature of the control group, percentage of clinical improvement in the chlorpromazine-treated

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group, dosage and duration of chlorpromazine therapy, criteria of improvement, and date of publication.

LOCALE

Of the 34 papers, 20 emanated from the United States (18 State, and 2 Veterans Administration hospitals). Of the remaining 14, 8 came from mental hospitals in Great Britain, and 1 each from Canada, Finland, Switzerland, Greece, Australia and Norway. From the large number of patients used in each of the studies from the last 6 countries (range of 109-283) one would be inclined to assume a certain similarity to our own State hospitals. The British tended to use lesser numbers of patients, reflecting either greater conservatism, smaller hospitals, or smaller treatment units.

PATIENT-POPULATION CHARACTERISTICS

In a study such as this, with patients from many different countries and hospitals, precise group-matching is manifestly impossible. Indeed, along these lines, Donnelly and Zeller(4) state, "Already there has been the publication of thousands of studies, most of which cannot be compared with each other so that attempts at correlation of data are of little value." Rough-hewn though our measurements must of necessity be, we shall attempt the correlation. Despite the divergencies of hospitals and nationalities, the patient-groups were remarkably similar.

Virtually all of the patient-populations under consideration were truly chronic. Mean durations of current hospitalization, where mentioned, ranged from 5-19.5 years, and 2 modal durations of hospitalizations were given as 5-10 years, and more than 5 years, respectively. Excluding from consideration those papers that gave evidence for duration of hospitalization, mean durations of illness, where mentioned, ranged from 2.5-16.7 years, with 2 modal durations of illness given as 5-10 years each. The degree of illness for the entire series extended from moderately to severely ill, with a very marked preponderance of the latter. None of the patients could be called slightly ill. A great many of them had been refractory to somatic therapies of all types, in-

cluding ECT, insulin treatment and psychosurgery.

CRITERIA OF IMPROVEMENT

This is one of the great stumbling blocks in comparative studies of research design. For the purposes of our present study, only that degree of clinical improvement which is generally referred to as "moderate," "definite," or "significant" is taken as the *minimum* requirement for the appellation of "improved." Higher degrees of improvement are, of course, also included. Surprisingly enough there seems to be generally accepted agreement (in the 11 papers in which it is explicitly defined) as to what constitutes moderate improvement, although it is occasionally given other designations. We quote the definition of "improved" patients given by Blair and Brady(5) because it is the most comprehensive and covers virtually all the aspects to which other authorities in our series refer (although usually only in part, or in a more general manner) when speaking of moderate improvement:

Patients who still suffer from serious psychotic symptoms such as delusions and hallucinations, although these are diminished in intensity and severity. Their behavior has improved and their social conduct is satisfactory, but they have a limited capacity to adjust themselves to any environment other than that to which they are accustomed. They are allowed the freedom of the hospital grounds on their own. They are capable of simple manual and occupational tasks under some supervision. They require a moderate degree of support from the nursing staff.

PROCEDURE

We were interested in the possibility of statistically relating the use of single-blind and double-blind techniques to degrees of clinical improvement in patients on chlorpromazine therapy, not neglecting to take into consideration the correlation with such presumably important co-variables as duration and dosage of chlorpromazine treatment, and the era in which the experiment was conducted. Of the 35 studies, 12 made use of the double-blind, placebo-controlled method. Since the 35 studies represent a fairly thorough review of the readily avail-

able literature in English this would seem to indicate that in the publication period covered by our study (1955-1959), at least one-third of all inpatient psychopharmacological investigations of the type under consideration made use of the double-blind procedure.

We are assuming (none of the papers in question offers definite information) that our non-double-blind studies were single-blind procedures, but we suspect that in a few cases they were non-blind, the patients knowing the nature and possibly even the name of the drug they were receiving.

PERCENTAGE IMPROVEMENT AS RELATED TO "BLINDNESS"

Remembering that the term "improvement" denotes moderate improvement or better, the 35 studies show a range of 5%-89% of patients improved, with the median at 52%. The mean for the 12 double-blind studies was 37.50% and for the 23 single-blind 59.70%. The difference between the means is significant at the .01 level of confidence (Table 1, $t=2.79$), indicating

TABLE 1
Relationship Between "Blindness" and Percentage Improvement in 35 Studies of Chlorpromazine-Treated, Chronic, Hospitalized Schizophrenics

	SINGLE-BLIND	DOUBLE-BLIND
Number of studies	23	12
Range of improvement	20%-89%	5%-78%
Mean	59.70%	37.50%

$t=2.79$; $p<.01$.

that those studies which included within their structure the double-blind technique showed significantly lower improvement rates than those which did not.

All of the double-blind investigations were placebo-controlled, but only 4 of the 23 single-blind studies were so constructed ($X^2=18.48$, $p<.001$). This raises the possibility that it may be the factor of placebo control which is determining the differential improvement rates for the single- and double-blind studies. To test this the improvement rates for single-blind placebo studies ($N=4$, mean=55%) were compared with those for single-blind, non-placebo studies ($N=19$, mean=60.68%). The resultant t -

ratio (.49) was not sufficiently large to implicate placebo control as a determinant of improvement rates. While great caution must be observed in interpreting this finding because of the small number of single-blind, placebo-controlled studies, it was our strong impression that the double-blind aspect of the various studies, either on its own account or by virtue of certain correlative features, was of greater import than placebo use.

We must now consider those other factors which, conceivably to a major degree, could be influencing the effect of "blindness" on improvement rates, namely, dosage, duration of treatment, and approximate era in which the experimental work was done (as deduced from the date of publication).

DOSAGE

In 23 of the 35 studies the mean daily milligram dose of chlorpromazine was stated directly or could be calculated with a fair degree of accuracy by making use of the dosage schedule included in the report. In order to determine the overall relationship between the 23 mean-dosage levels and their corresponding percentage improvement rates, use was made of the product-moment correlation coefficient, which proved to have a value of .15. This is statistically insignificant at the 5% level and would tend to show that the various dosage levels used were of no great moment in producing differences in improvement rates. In addition, we were unable to affirm by means of the t -test that double-blind studies tended to use significantly larger or smaller dosages than single-blind.

DURATION OF CHLORPROMAZINE TREATMENT

We were able to arrange 27 of the studies in order of increasing duration of therapy (4-121 weeks) and a midpoint was then established separating the short term therapies (4-13 weeks) from the long term (13-121 weeks).

Our first efforts were directed toward the problem of the relationship between duration of therapy and percentage-improvement rates. A 2×2 distribution was set up matching these 2 variables (Table 2), and the chi square test was used. Here we have the significant finding that those projects

TABLE 2

Relationship Between Duration of Therapy and Percentage Improvement in 27 Studies of Chlorpromazine-Treated, Chronic, Hospitalized Schizophrenics

	SHORT TERM THERAPY	LONG TERM THERAPY	TOTAL
High improvement (Median 52%)	4	10	14
Low improvement	10	3	13
Total	14	13	27

p (Fisher Exact Method)=.02.

in which patients were on long term chlorpromazine medication showed higher percentage improvement rates than did the short term projects ($p=.02$). Thus, besides the use of the double-blind method, we find ourselves with another meaningful variable which appears to be playing an important role in clinical outcome.

Furthermore, we observed the very surprising fact that only 1 of the 11 double-blind studies was long term, and only 4 of the 16 single-blind studies were short term (Table 3; $X^2=8.85$, $p<.01$).

TABLE 3

Relationship Between Duration of Therapy and Degree of "Blindness" in 27 Studies of Chlorpromazine-Treated, Chronic, Hospitalized Schizophrenics

	SINGLE-BLIND	DOUBLE-BLIND	TOTAL
Short term therapy	4	10	14
Long term therapy	12	1	13
Total	16	11	27

X^2 (Yates Correction)=8.85; $p<.01$.

TABLE 4

Interaction Effects of "Blindness" and Duration of Therapy on Percentage Improvement in 27 Studies of Chlorpromazine-Treated, Chronic, Hospitalized Schizophrenics

	SINGLE-BLIND PERCENTAGE IMPROVEMENT			DOUBLE-BLIND PERCENTAGE IMPROVEMENT		
	N			N		
Short Term	4			10		
	Range	33%-82%			5%-65%	
	Mean	50.75%			33.40%	
Long Term	12			1		
	Range	41%-89%				
	Mean	67.83%				
				Quantity Not Sufficient		

$F=7.60$; $p<.01$
 t_1 (50.75% vs. 33.40%)=1.42; $.20>p>.10$.
 t_2 (50.75% vs. 67.83%)=1.44; $.20>p>.10$.
 t_3 (33.40% vs. 67.83%)=3.93; $p<.001$.

INTERACTION EFFECTS

An attempt was then made to study the interaction effects of the significant variables. Table 4 indicates the relationship of "blindness" and duration of therapy to percentage improvement. The F-test is significant at the .01 level. However, when t-tests are employed in a search for the sources of this significant relationship, the only comparison found significant is the higher mean percentage-improvement rate for long term, single-blind as opposed to short term, double-blind studies ($p<.001$). Insufficient data in the long term, double-blind cell prevented an analysis of variance and we were thus unable to ferret out the relative impact on improvement rates of degree of "blindness" as against duration of therapy.

ERA

There is prevalent a common conception that at their first appearance the ataractic drugs were hailed with wild acclaim which, as their limitations became more obvious, gradually subsided into a more sober and realistic appraisal of their true worth(2). It was decided to test this assumption by making use of the publication dates of our studies. Admittedly this is a very rough guide to the actual period in which the work was done, especially in the case of single-blind studies with their great variation in duration and an unknown time lapse between completion of project and publication of results.

When the dates of publication were ar-

effect of single-blind and double-blind procedures on the reported clinical effectiveness of a drug, in this case chlorpromazine. Although superficially there is a definite relationship between experimental procedure, *i.e.*, degree of "blindness" and the obtained improvement rates, further study reveals that the "blindness" conditions are confounded by other factors, namely, duration of therapy and placebo-control. These 3 factors are so intertwined in the studies examined that it is impossible to clarify their relative significance for improvement rates.

It is obvious that there is a crying need for more long term, double-blind and short term, single-blind studies. Indeed, it was the lack of these, especially the former, that prevented an analysis of the variance in improvement ratings attributable to "blindness" as opposed to duration of therapy. In papers such as the present one, which use as their basic technique the examination and integration of results from a large number of separate reports, the issue of the relative value of double-blind studies in the production of more scientifically accurate results will not be settled until more long term, double-blind and short term, single-blind studies are available to make the necessary comparisons. However, another approach that might be used is to perform simultaneously 2 equivalent experiments on matched groups of patients, using identical raters, in one instance as a single-blind, and in the other as a double-blind, procedure.

It is interesting to speculate on the reasons for the missing variables. The startling consistency of research designs (*i.e.*, the coupling of double-blind with short term, single-blind with long term, double-blind with placebo-use, single-blind with non-placebo-use) raises formidable questions about the adequacies of the procedures commonly accepted by the scientific community for evaluating drug effects. The experimental conditions which are here closely interlinked on an apparently empirical basis need not necessarily be so on a theoretical or scientific basis. It is entirely conceivable that non-scientific values, *i.e.*, bias, are severely limiting our research potential.

This bias could quite possibly take the form of certain attitudinal sets among those working with drugs. On the one hand we

may have those who tend to feel that only the double-blind, placebo-controlled method is truly "scientific," that single-blind procedures, some of which are without doubt done and even conceived *ex post facto*, must, of necessity, be "therapeutic" and have as their fundamental aim the "cure" of the patient rather than a precise and thorough evaluation of the drug. On the other hand there may be those who believe that double-blind procedures are, and must be, primarily oriented toward the clinical effects of a drug as compared to a placebo, rather than toward the ability of the drug, *qua* drug, to produce curative or palliative results. They may feel, with a certain amount of distaste, that the double-blind technique is, and must be, basically formal and procedural rather than therapeutic, and that those engaged in this type of procedure have a strong desire to get the work completed and the results published as rapidly as feasible. In this connection we may remark that 4 weeks, which was the full duration of active therapy in 4 of our double-blind studies, would appear to be a relatively short period of treatment for such deteriorated schizophrenics as these, and one can only marvel that any improvement was forthcoming, much less the 5%-65% that was actually obtained.

The vital question at issue here is not so much whether the state of affairs as envisioned by each of the 2 proponents actually exists (and it may, to a certain extent), but whether it must needs be so. The answer seems to be obvious. There is no valid methodological, theoretical or scientific reason why double-blind studies *must* be short term, or even placebo-controlled, or why single-blind studies *must* be long term or non-placebo-controlled, and it is highly doubtful whether such constrictions facilitates the equitable testing of any drug's specific therapeutic capabilities.

An apparently legitimate objection that might be raised against long term, double-blind studies is that the appearance of side-reactions would soon nullify the double-blind aspect of this approach. There is some question, however, whether this objection is fully valid. There will always be placebo-reactors, who are capable of experiencing almost every type of psychological and

physiological response that one normally sees with active drug use, and conversely there will always be a substantial number of patients who show no side reactions to a particular drug within the usual therapeutic dosage range. In addition, and most important, the observer in a carefully constructed double-blind study can never be absolutely certain who is getting active, and who inert, medication. There is always an element of doubt.

SUMMARY AND CONCLUSIONS

Examination of the research designs in 34 published papers (35 separate studies) dealing with the chlorpromazine treatment of chronic, hospitalized schizophrenic patients, reveals the following :

1. Those studies which included within their structure the double-blind, placebo-controlled technique showed significantly lower clinical improvement rates than those which did not.

2. No significant relationship was found between the various dosage levels used and clinical improvement rates, nor could a differential in dosage levels between single- and double-blind studies be established.

3. Long term studies showed significantly higher clinical improvement rates than did short term studies, demonstrating that duration of therapy, as well as degree of "blindness," may be a very meaningful variable in determining clinical outcome.

4. Duration of therapy was significantly related to degree of "blindness" in that only 1 of 11 double-blind studies was long term and only 4 of 18 single-blind studies were short term.

5. Long term, single-blind studies showed appreciably higher clinical improvement rates than did short term, double-blind studies. The very meager number of long term, double-blind studies (1 only) and, to a lesser extent, of short term, single-blind studies prevented us from differentiating between degree of "blindness" and duration of therapy regarding their relative impact on improvement rates. Thus, no clear-cut, certain evidence could be adduced either to support or nullify the contention that the double-blind, placebo-controlled method is, *per se*, a necessity for

the "accurate" clinical evaluation of a drug. Further research and experimentation on this problem are urgently needed.

6. Considering improvement rates as a reflection of the observer's subjective attitude toward a drug, and using publication dates as a rough index of the chronological order in which the studies were performed, we were unable to demonstrate a general decline in improvement rates with the passage of time. Thus we could not validate the commonly held belief of a progression from an initial overenthusiasm to a later realism in the subjective evaluation of a drug.

7. Running like a thread through many of our results was the apparent importance of duration of therapy in determining improvement rates. This is one variable which, in particular, must be taken into account in any study of the relative scientific efficacy of the double-blind method.

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DISCUSSION

FRITZ A. FREYHAN, M.D. (Washington, D. C.).—It is the purpose of this study to examine whether experimental design by virtue of its existence has an influence on clinical evaluations of pharmacotherapy. In this connection Dr. Click raises the question whether

the current favoritism for the double-blind, placebo-controlled method is scientifically sound. To assess the influence of experimental design 34 papers were chosen from the literature with 12 representing the double-blind method. While it is not explained how these particular papers were selected, we are assured that the patient groups, in spite of the diversities of hospitals and nationalities, were, in Dr. Click's words, remarkably similar in being truly chronic and from moderately to severely ill. Whatever the authors of the 34 papers had designated as various degrees of improvement is here in this study lumped together in one category "improved." Thus, percentage improvements are determined and related to degree of "blindness," duration of treatment, and date of publication.

The assumption that the 34 papers had as much in common as is stated deserves further examination. There are no criteria stated for "truly chronic" or "degree of illness" which would permit us to agree or disagree with the definitions as used here. Nor do we know the clinical indications which prompted each of the 35 studies of chlorpromazine. I would like to know what the therapeutic aims were in terms of symptomatic improvement, compensatory treatment, or clinical recovery. One cannot sufficiently stress, it would seem to me, that neither chronicity nor severity of illness as such can be conceived as therapeutic goals for drug treatment. One does not prescribe insulin or digitalis on the basis of length of illness but in accordance with manifest disfunctions. Thus it appears highly improbable that what Dr. Click wishes to compare on the basis of these studies may be regarded as comparable. There is also the question of the meaning of "single-blind." It is, in my opinion, rare that in non-experimental studies precautions are taken to withhold information from patients regarding their treatment or the nature of medication, so that we are probably not dealing with degrees of "blindness" but with double-blind versus non-blind studies.

The analysis and interpretation of the data establish duration of treatment as a highly significant variable which accounts for difference in outcome. We do not know, however, whether the reported degrees of improvement were based on evidence of symptom modification or final social level of behavior. There certainly exists a great deal of difference between symptom modification, which becomes, by the way, apparent early in the course of the treatment and which should establish the effectiveness of the drug in the treatment of schizophrenic symptomatology, and, on the other hand, out-

come in terms of social improvement at termination of treatment. It is necessary to separate actual psychotropic effects and social therapeutic outcome since the latter reflects the patients' capacity for social adaptation which depends on many factors not connected with drug treatment. Furthermore, one would prefer to know whether the results in each paper were based on rating scales or on clinical observations, or both. The fact that the percentage improvement reveals such immense ranges as from 8%-78% or from 5%-65% would seem to indicate drastic differences in methods or competence of evaluation as well as in the selection of patient populations. The means have less significance since they blur rather than identify the dissimilarities in the 34 papers which Dr. Glick used for his statistical calculations. I am certainly not opposed to comparing double-blind with non-blind studies, but I raise the question whether the method used here lends itself at all to comparative evaluations.

I agree that Dr. Glick has identified certain shortcomings such as duration of treatment as a possible factor for discrepancies in results. But when he concludes that "there is a crying need for more long term, double-blind and short term, single-blind studies" I would doubt that this constitutes a reasonable conclusion. There is today convincing evidence, based on competent clinical and experimental studies, which specifies the effectiveness of chlorpromazine in the treatment of schizophrenic patients. The creditability of this evidence does not depend on degree of "blindness" or duration of treatment in design of studies, but on clinically sophisticated conceptualization of interaction between drug effect and patient and on the resulting choice of methods most suitable to provide valid proof of specific effects.

The theoretical implications which Dr. Glick stresses are indeed of great interest and deserve further discussion. Dr. Glick's question whether bias may severely limit our research potential suggests two considerations: is it bias or is it rigidity of design which accounts for the discrepancy of findings as reported here? The controversy whether drug studies should be controlled or uncontrolled represents, in my opinion, an artificial set of alternatives and is, at best, an oversimplification of a methodological problem. While it is true that only objective findings are scientifically valid, it does not follow that the model of the double-blind, placebo-controlled study has a monopoly on objectivity or, for that matter, on scientific reputation.

The decisive value of clinical studies lies in

the discovery, identification and ascertainment of psychopathological criteria which are sufficiently sensitive to provide information relevant to the purpose of the investigation. And there is no convincing evidence for the use of "chronicity" as a criterion since, as every psychiatrist knows, there are as many dissimilar behavioral variations in chronic as in acute patients. Only certain schizophrenic patients, acute or chronic, are apt to benefit from neuroleptic treatment; others fail to change or become worse. It is therefore quite conceivable that the so greatly varied distribution of suitable patients for chlorpromazine treatment in the 35 studies may alone account for marked discrepancies in outcome. Furthermore, it is reasonable to assume that the controlled studies, being committed to rigid procedures of selection, dose range and observation, were less apt to distinguish significant response differentials.

I also agree with Dr. Glick that the role of the placebo should be reconsidered and not be taken for granted in research design. In clinical investigations of psychoactive compounds, a basic consideration concerns the identification of psychopathology that can be treated by drugs. The investigative goal is to concentrate on whether a particular drug, under specified conditions, can alter specified psychopathological symptoms. What impresses us as the resulting change in the patient depends on the interaction of typical drug effects with a given psychopathological state in a given personality. This does not mean, as is at times asserted, that drug studies should be centered on each individual patient and therefore preclude statistical validation, but rather that it be stated specifically what or who it is that the drugs are supposed to interact with in a patient population selected for a study. No one should wish to turn the clock back and ignore the great strides which have been made in determining the magnitude of the therapeutic effect of placebos. But while vast numbers of patients are the psychologically benefiting victims of the physician's faith in drug effects, there is also evidence that we now approach an era of placebo euphoria characterized by the strange fantasy that the enthusiastic doing of something to the patient supersedes all pharmacological effects and that, therefore, controlled studies failing to show significant differences between a drug and placebo have disproved a drug's therapeutic potential. One should not overlook that a patient who reacts to placebos can and does also react to psychotropic drugs. It may often be more important to compare drug treated patients with non-

treated patients in order to observe spontaneous recovery or symptom fluctuations. Recognition and evaluation of psychotropic effects presuppose intimate knowledge of psychopathological phenomena, observed under many changing circumstances, and responding to various types of treatment. Without this knowledge one may ascribe changes to drug effects which are in fact non-pharmacological in origin or, on the other hand, credit psychological factors with producing changes which were solely evidence of pharmacological action. The shortcomings of certain double-blind studies are, therefore, due not to bias but to

the paucity of informative clinical variables which permit recognition of therapeutic potentials and limitations.

I welcome Dr. Glick's original approach to the current controversy on methodology. I would like to suggest that he proceed to a more comprehensive analysis of the same 34 papers in order to recognize similarities or dissimilarities in the goals of the studies, in patient population, and in type and quality of clinical observations. Such a study would complement the present one; both together might then represent highly valuable material for a revaluation of present research methods.

IMPLICATIONS FOR PSYCHOTHERAPY DERIVED FROM CURRENT RESEARCH ON THE NATURE OF HYPNOSIS^{1, 2}

MARTIN T. ORNE, M.D.³

I.

In this paper we propose to discuss the implications for psychotherapy of some of the hypotheses that have derived from our research on hypnosis. We have been concerned with the essential nature of the hypnotic process rather than its therapeutic application. The problems encountered appear to have a close parallel to those seen in the study of psychotherapy. Further, here too we are dealing with a significant interpersonal relationship which alters the boundaries of consciousness.

II.

The behavior of a subject when hypnotized would seem easy to describe. Usually his eyes will be closed, he will appear passive, if requested to perform an action it will be done slowly, his voice will be low and often childlike and he will tend to respond only to cues from the hypnotist. This description however does not hold in an historical perspective. Mesmer(1) traditionally has been given credit for re-discovering hypnosis. At his seances or "baquets" patients would have an hysterical seizure, or fit, subsequently lapsing into a sound sleep. This pattern of behavior was induced solely by silent passes and the structure of the situation. They would awaken relieved of their symptoms, without any verbal suggestions to this effect. However, in a sample of several thousand subjects we have never observed behavior of this type. Coué(2), familiar as the originator of the phrase, "Every day in every way, I am feeling better and better," certainly employed hypnotic

techniques, yet his patients did not close their eyes, appear in a trance, or go to sleep. These are only two of many examples of the variability which has been associated historically with the behavior of a subject in hypnosis.

Naturally the hypnotist may, by appropriate cues, modify the behavior of the subject in hypnosis. However, we are describing here how the subject acts on being hypnotized in the absence of specific instructions. Today we tend to see the very standard pattern of behavior which we have described. What would account for such variability in the past and such consistency today? It seemed reasonable to hypothesize that the behavior the subject will manifest upon going into hypnosis is a direct function of his conception of how a hypnotized subject behaves. In view of the widespread dissemination of knowledge through mass media of communication and the relatively uniform current beliefs about hypnotic behavior, it would be easy to understand why subjects today will seem to behave similarly, and it would appear equally plausible that Mesmer's and Coué's subjects did not behave in this way.

We decided to test empirically the hypothesis that subjects' behavior in hypnosis is a function of their prior knowledge about the role of the hypnotized subject(3). In order to do this, we needed an item of behavior which could plausibly be associated with hypnosis but in fact had never been observed occurring spontaneously. Such an item of behavior is hard to come by, since a very wide range of hypnotic behavior has already been reported in the literature. We finally hit upon catalepsy of the dominant hand. Catalepsy has frequently been observed in hypnosis; however, when it occurs, it occurs in all limbs. It never occurs in one hand, while the other remains flaccid. However, catalepsy of the dominant hand sounds somewhat scientific; it evokes in the college students, whom we planned to use as subjects, vague memories

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of stutterers, tests of hand dominance, and so on.

First I gave a lecture on hypnosis to a group of university students in an introductory psychology class. Included was a demonstration with several of the class serving as volunteers. Unknown to the class, these subjects had previously been hypnotized and had been told to manifest catalepsy of the dominant hand. Along with other well-known phenomena of hypnosis, this characteristic was casually pointed out as typical. At a later time, members of this class were hypnotized and tested for catalepsy and for the first time we were able to observe a new behavioral characteristic of hypnosis—namely, catalepsy of the dominant hand without any specific suggestion. We view this as a demonstration of the effect of prior experience or knowledge on hypnotic behavior. Later we performed a more rigorous experiment with matched sections of the same class. The two sections received identical lectures, but one lecture included the new item and the other omitted it. Volunteers from the class, with both sections randomly mixed, were then hypnotized by a hypnotist who did not know which subjects belonged to which section. Catalepsy of the dominant hand was found to occur only in the section which had received the lecture demonstrating it as a typical characteristic.

The implications of this type of study are rather striking. It seems to suggest that we have no uncontaminated data about the behavior which is characteristic of hypnosis *per se*. Since it is practically impossible to find "naive" subjects, there seems little prospect of obtaining such data in the future, short of cross-cultural and historical studies. Probably most, if not all, of the behavioral characteristics of hypnosis can be understood in terms of the subject's previous knowledge and the cues transmitted during the process of induction. It is entirely possible to conceive of the typical hypnotic trance for the most part as an historically developed artifact occurring along with a process, the essential behavioral manifestations of which are little known. The basic process, without the gross behavior which is so variable, might be called the essence of hypnosis. This is the real

focus of our research interest.

The problem of recognizing which elements ascribed to hypnosis are artifactual or epiphenomenal is extremely difficult. The nature of hypnosis is such that any expectation the hypnotist entertains may unwittingly be communicated to the subject who then acts in a way that demonstrates the validity of the expectation. Thus, we have the potentiality for the occurrence of self-fulfilling prophecies without the investigator becoming aware of his own role therein. It is necessary to get outside of the immediate interaction into its context in order to recognize these variables.

In experimental research with hypnosis this gross variability of the phenomenon persists. Here, too, the subject will behave in accordance with his perception of the experimenter's expectations. It is generally recognized that unwittingly detailed and accurate communications may take place in the form of implicit or non-verbal cues. Clearly the subject does not respond merely to the verbal suggestions but rather to the totality of the situation from which he actively attempts to ascertain the behavior which is desired. In an experimental situation the subject may further derive considerable information about the experimenter's wishes from the procedure of the experiment itself. The extent to which the experimental procedure communicates the hypotheses of the experimenter will depend upon the subject's previous knowledge and sophistication. However, some knowledge will inevitably be communicated.

The totality of cues which communicate the hypotheses or wishes of the hypnotist (including implicit and non-verbal cues from the experimenter and cues provided by the experimental procedure) we have termed the *demand characteristics of the experimental situation*. What demand characteristics are perceived will vary with the subject's prior knowledge, and different demand characteristics may be perceived by different subject populations in the same experiment. These will, under some circumstances, be the major determinant of the subject's behavior. For example, if we test the Babinski reflex of a medical student, then regress him to the age of 3 months and test the Babinski again, our

expectation of plantar extension rather than flexion is communicated by the procedure in the light of the subject's knowledge.

Experimental findings which are a function of the demand characteristics may or may not be replicable depending upon whether the replication provides the same cues. But certainly they do not permit us to make valid inferences about real life situations. It is clear that unless the demand characteristics of an experiment are understood, ecologically valid(4) inference is difficult. Much of our work therefore has been concerned with the development of techniques which permit the study of demand characteristics. Three major approaches are possible: 1. To manipulate the demand characteristics purposefully; 2. To study what demand characteristics were perceived by inquiring into the subject's perception of the purpose of the experiment; 3. To study the effect of the demand characteristics by including a group subjected to a dummy treatment which omits the experimental or independent variable such as hypnosis. The behavior of this group can then be accounted for in terms of the demand characteristics rather than in terms of the independent variable.

We have discussed these problems of control in detail elsewhere. I would like merely to point out that the common practice of telling the subject a fictitious but plausible reason for an experiment is an example of manipulating the demand characteristics. This is effective only insofar as the subject actually believes what he is told. It is incumbent on the experimenter in each instance to determine what were the subject's actual beliefs in the situation.

The procedure of inquiring into the subject's perception of an experiment after it is over has inherent factors which make obtaining a valid report difficult. It is common knowledge among our subject population that they are supposed to be ignorant of those aspects of an experiment which are not specifically explained to them. They are aware that too much information about a study would disqualify their performance as subjects. This eventuality runs directly counter to their motives for participating in psychological studies. It would vitiate their efforts to contribute to science and research

and make their investment of time meaningless. They are therefore motivated to respond with "I don't know" to questions about their perceptions of the purpose of the experimental tasks. The experimenter on the other hand is equally motivated not to obtain such information, as he no more than the subject relishes the thought of wasting his time and does not wish to exclude a subject's performance. As a result he may all too easily accept the initial "I don't know" and the interlocking motivations of subject and experimenter will thus lead to a pact of ignorance. If the experimenter does not accept the initial denial of knowledge by the subject but acts upon the hypothesis that the subject may know more than he is telling (much as we would in the therapeutic situation) he will find that most subjects will be able to verbalize very specific hypotheses about the experiment which may or may not coincide with those of the experimenter. In eliciting the subject's beliefs about the experiment it is desirable to have the inquiry performed by a member of the research group other than the experimenter. In several studies the subjects' beliefs about the experimenter's hypotheses proved to be better predictors of what they did in the experiment than their reports of what they thought they had done.

Finally, we have used extensively a procedure which attempts to maintain the demand characteristics of the situation, to maximize the subject's response to them, but to eliminate the variable to which the experimental result is usually ascribed. One example of such a procedure involves the use of simulating subjects. Subjects who had failed to enter hypnosis during repeated sessions were told that they were to simulate entering hypnosis for the hypnotist. They were further informed that the hypnotist would know that some subjects were trying to simulate but not which; that if he discovered that the subject was simulating he would terminate the experiment; but that successful simulation was possible. Under these circumstances subjects are able to behave in a manner difficult and oftentimes impossible to distinguish from hypnosis without, however, the subjective alteration in experience which distinguishes the hypnotic state. Simulators are not detectable by

such tests as pinching or faradic stimulation and are highly motivated to carry through their role. They must of necessity base their behavior on the demand characteristics of the situation rather than let it be determined by hypnosis.

The hypnotist in this type of design has to be ignorant of the true status of the subject in order that the subtle non-verbal communications remain constant for both groups of subjects. The real-simulator design is intimately related to the blind design in certain types of psycho-pharmacological experiments. The use of simulating subjects makes possible the extension of the blind design to experiments where we cannot conceal from the subject whether he received the experimental or placebo (dummy) treatment. At the same time the hypnotist cannot discriminate between groups of subjects. Such design then enables us to decide between explanations of individual items of behavior of real subjects as due to the experimental independent variable or alternately as due to the intervening variables of the demand characteristics of the experiment. Such items of behavior that are produced by simulating as well as real subjects may be explained in terms of the demand characteristics of the experiment—or they may, in the case of real subjects, be produced by another mechanism. In these instances, further research is necessary to prove which of these alternative explanations is responsible for the effect.

III.

In the development of these techniques it became clear that the experimental situation in and of itself is a peculiarly powerful one. Simulating subjects are extremely motivated. They will endure a high level of painful stimulation, undertake arduous, embarrassing, and boring tasks. They will also match the apparent transcendence of normal capabilities observed in hypnotic subjects. This is probably due to a unique combination of motives which makes it possible for the subject to gratify his wishes to contribute to research and to further knowledge, while at the same time putting one over on the experimenter, thus deprecating an authority figure.

The psychological experiment, even with-

out simulating subjects, is a peculiar situation. In the course of our methodological investigations we became intrigued with the social psychology of the experiment. By mere agreement to participate in a study the subject grants the legitimacy of a remarkably wide range of requests. The category of potential behavior which can be demanded of a subject during his participation in a psychological experiment is so broad that it is limited only by the social constraints on the experimenter. For example, if a student asks a peer to do 10 push-ups as a favor, he will be asked, "Why?" If the same student secures the agreement of the same fellow student to take part in an experiment and then tells him to do 10 push-ups, he will be asked, "Where?" In other words, the willingness to do a favor does not in and of itself legitimize the request to do 10 push-ups without further explanation. However, participation in an experiment causes the subject to assume a legitimate purpose without further explanation being required. We have tried to find absurd "experimental" tasks which subjects would refuse to perform and have been unable to do so. Only such tasks would presumably meet with refusal that conflict with the basic value system of the subject. By its very nature, this hypothesis cannot easily be tested in the laboratory.

It is clear that once the subject has given his consent to participate in an experiment he voluntarily puts himself under the control of the experimenter. The potential range of behavioral control is extremely broad, at least for the usual college student volunteer. This surrender to control I would interpret as deriving from the subject's involvement with, and high regard for, science and experimentation. The process of selection of volunteers by itself tends to guarantee such a value orientation. The authority of the experimenter then derives from his association with science. The control is sufficiently legitimized by the declaration, "This is an experiment," which is accepted as valid by our subject population. This aspect of the experimental situation in non-hypnotic experiments, which incidentally are equally subject to effects of demand characteristics, must be taken into account when we wish to infer to real life situations.

Many of the considerations which apply to hypnosis and the experimental situation may be also applicable to the doctor-patient relationship. Here, too, is a peculiar authority relationship wherein the patient makes certain assumptions about the positive motivation of the doctor. Furthermore, the patient places himself under the care of the physician much the same way as the subject under the control of the experimenter. In most doctor-patient relationships, it is potentially possible to elicit a wide range of behavior from the patient by the statement, "This is a test." Few patients insist on knowing the logic of the test prior to complying with instructions.

Our knowledge about hypnosis is derived almost exclusively from studies conducted in clinical, experimental or quasi-experimental settings. Hypnosis is often seen as an extremely potent technique of behavioral control; however, because of the degree of behavioral control which is already inherent in the settings in which hypnosis is studied, we have been unable to demonstrate any increment of control over the hypnotized subject from the amount of control which can be exercised by the physician or experimenter over the un hypnotized subject. At this point the question has not been answered, whether hypnosis increases the hypnotist's control over the subject beyond that which is already inherent in the situation prior to the induction of trance.

IV.

It is not clear what the essential qualities of the hypnotic state are, or what, if anything, psychodynamically relevant is changed by the existence of this state. There are, however, certain constant qualities of social interaction that characterize hypnosis. Thus, the behavior of the hypnotist changes as dramatically as the behavior of the subject. Many aspects of hypnosis can best be conceptualized as a *folie à deux* (a set of complementary role expectations about an unreal definition of the situation). Thus, the subject acts as though he were unable to resist the suggestions of the hypnotist and the hypnotist acts as though he were all-powerful. By the same token not only does the subject experience the perception of a

suggested hallucination but the hypnotist also acts as though the subject were in fact seeing the hallucination. Particularly striking is the behavior of the hypnotist with a subject in age regression. His speech becomes altered from that customary in addressing an adult to that typically used when addressing a child. In fact, if the hypnotist does not do this and fails to obtain the phenomenon from the subject, one tends to say his technique is faulty. Poor technique in other words, on close inspection, turns out to be the failure of the hypnotist to complement the role which he had assigned to the subject.

We have been filming hypnotic sessions in order to analyze the interaction in more detail. In some of this research we have used both real and simulating subjects with the hypnotist being unaware of their true status. In one instance, the hypnotist had become convinced on meeting the subject that he was a simulator, whereas in fact the subject was able to enter deep hypnosis easily and quickly. In the interaction that ensued, the subject failed to enter deep trance and became quite hostile to the hypnotist, who, while giving suggestions as usual, failed to play convincingly a complementary role.

Perhaps one of the major problems in the psychiatric use of hypnosis is the great difficulty of employing a technique which demands that the therapist enter into a *folie à deux* with the patient. One requirement of successful hypnosis is that the patient should be able to ascribe magical powers to the therapist. It is necessary for the therapist employing hypnosis to enter into this relationship, act out and participate in the *folie à deux*, while maintaining sufficient objectivity to recognize that he does not acquire the power the patient ascribes to him. This is perhaps one of the explanations of why thoroughly competent psychiatrists and analysts reporting on isolated uses of hypnosis, usually during their war time experiences, describe attempts at treatment which violate their own very excellent knowledge of psychodynamics. Somehow they seem to get caught in the interaction process and seduced into attempting to compel the patient to change in a manner which is blatantly incompatible with the particu-

lar patient's personality. Obviously such an endeavor will lead to failure. In every instance of hypnotherapy where we have had the opportunity of exploring what actually took place, it has been clear that the basic psychodynamic mechanisms operating are in no way altered or suspended because the patient enters hypnosis.

Another aspect of hypnotherapy, which may be responsible for the apparent changes in the defensive organization of the patient in hypnosis, may be the role expectations inherent in the use of hypnosis both by the patient and the therapist. Thus, in the case of symptom removal, the therapist is seen as an omnipotent figure by the patient and participates with the patient in this aspect of the *folie à deux* as well. The therapist takes responsibility for the patient's relinquishing of the symptoms and the patient is able to mobilize a greater degree of flexibility by identifying with the omnipotent therapist. Again in the case of obtaining material otherwise unavailable to consciousness, the therapist assumes responsibility for the patient's verbalizations; the patient feels, "because I'm in hypnosis, I'm not responsible for what I say." In some instances the function of hypnosis may be to legitimize a change in behavior which the patient wishes to undertake but cannot without an appropriate excuse. As has been pointed out by others, we can ascribe a similar function to the psychoanalytic couch. Not only is the couch historically related to hypnosis, but it may also be related in a structural sense, in that it symbolizes an alteration in the situation which clearly delineates when a patient can feel without responsibility for his verbalized thoughts. The getting up from the couch is somewhat analogous to the hypnotist's waking up the patient when the shared expectations are that he is again to behave socially, *i.e.*, censor his speech as in everyday life. These procedures may be seen as redefining behavior which normally is regarded as deviant into variant behavior legitimized, and called for, by the situation.

Some of the implicit shared expectations about therapy, closely analogous to the demand characteristics in experimental situations, may play a major part in determining the course of psychother-

apy. For example, it is felt by the advocates of hypnoanalysis that the use of hypnosis makes possible more rapid progress in treatment (5, 6). Assuming that the rate of progress is in fact more rapid, it might well be due not to the actual use of hypnosis but rather to the firmly held belief by both patient and therapist that the use of hypnosis speeds up therapy. It is entirely possible that certain shared expectations about the length of therapy govern in large part the rate of progress. In recent years the length of treatment has tended to increase, no doubt in a large measure due to changing orientation about goals. Perhaps some of this lengthening may also be due, however, to certain shared expectations about how long treatment should take. It is an interesting but difficult empirical issue raised tangentially in the literature on termination dates to what extent shared expectations about the length of treatment will affect the rate of progress in treatment.

Not only may certain shared expectations affect the length of treatment but also their presence or absence may determine much of the outcome of treatment. We would like to draw an analogy between the behavior of the hypnotized subject and that of the patient in therapy. The behavior in response to hypnosis is, as we have pointed out, largely dependent upon the knowledge about the role of hypnotized subjects that the subject brings with him, while subsequent behavior depends upon cues from the hypnotist and the subject's interpretation of these cues in the light of his previous experience. The development of the *folie à deux* of hypnosis is facilitated by the fact that subjects know a good deal about the role that they are expected to play and that the hypnotist is explicit about the behavior he wishes to elicit. The therapeutic situation is different for many patients in that they know little about the patient's role in treatment and we as therapists are loathe to communicate the behavior both in and between sessions that is expected of them. Despite our reluctance to give the patient information about his role, it is vital for him to somehow learn enough about this role to make the therapeutic interaction possible. In the complex interaction which constitutes the therapeutic process the patient's ability

to behave appropriately will largely determine whether he is perceived by the therapist as a good or a poor patient for treatment. The therapist's perception of the patient will in turn in large part determine the subsequent course of treatment. In some ways this may be analogous to a hypnotist attempting to hypnotize a good subject whom he believes to be simulating, and failing to obtain an adequate trance. This analysis would seem consistent with the report of Redlich and Hollingshead (7) that educated middle and upper class patients receive psychotherapy while uneducated, lower class patients receive EST. Not only does the psychotherapy patient come from the same social class as his therapist but he also has the greatest amount of knowledge about the role the patient is expected to play in treatment.

We might hypothesize that this anticipatory socialization for the role of patient is the crucial variable. With increasing mental health education we might expect an ever larger proportion of patients to be able to play this role. It could become quite standardized much in the same way as has the response from any member of our culture to any technique of hypnotic trance induction. While this may be desirable, it would make extremely difficult our ever discovering what is really essential to the process of psychotherapy. The historical confusion about hypnosis would find a parallel here. As in hypnosis, the behavior of patients in psychotherapy has varied widely. The same method of therapy has led to different results in the hands of different therapists, while dissimilar therapeutic efforts frequently have led to the same results. Perhaps here too we need to concern ourselves with separating the constant invariant essence of the therapeutic process from those variable aspects that are artifactual and epiphenomenal.

The recent reports by the British of 15-minute therapeutic sessions at intervals leading to dramatic results might be evaluated from the perspective we have discussed. Just as we have omitted in our group of simulators the crucial variable of hypnosis

while maintaining the demand characteristics of the situation, the British psychiatrists using few, brief, intermittent sessions have omitted variables which we believe to be necessary for the therapeutic process, namely, long interviews, several times a week, over a prolonged period. They have, however, included the demand characteristic of the therapeutic situation. A comparison of the results obtained could be regarded as a quasi-experiment to distinguish between the effect of psychotherapy and the effect of the patient's perception that he is in psychotherapy.

SUMMARY

We have applied to psychotherapy some hypotheses that arose from our current research on hypnosis. Whether or not there exists a valid analogy between the therapeutic process and the hypnotic state, the specific hypotheses may be potentially fruitful in our inquiries about the nature of the therapeutic process. Any conclusions about their validity will of course have to await concrete results of research. Some of the methodological considerations and tools we have developed to deal with problems in the study of hypnosis may be useful in testing similar hypotheses about psychotherapy.

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AN INVESTIGATION OF READING DIFFICULTY IN YOUNG CHILDREN¹

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Reading difficulty in young children in their early school years accompanies or is followed by somatic complaints, behavior disturbances, and signs of emotional distress which frequently bring the children to the attention of their physician. If the physician is not aware of the potential severity of the stress reaction which can result from reading failure, extensive medical studies might be conducted without uncovering the cause of the complaint.

In children of apparent normal intelligence and without evidence of frank central nervous system disorder, the diagnosis of reading failure is not a simple matter. Such possible factors as lateral dominance, mild central nervous system dysfunction, maturational slowness, specific disability in visual-motor functions, genetic predisposition, methods of reading instruction, school changes and emotional disturbances are often suggested as the basis for reading failure in children (1, 2, 6, 9, 10, 14, 15, 17, 18). With the abundant evidence offered for the many points of view regarding the basis for retarded reading, it is apparent that the problem of determination is complex and that no single factor alone need be regarded as cause.

Since treatment and management of the child with reading difficulty depends upon adequate diagnosis (11), early and accurate diagnosis is essential. Prolongation of the reading difficulty leads to cumulative problems in learning and adjustment (9).

This study is an investigation of the problem of reading difficulty in the young child

from a medical and psychological point of view, careful attention being given to the medical history as a diagnostic tool. Psychological tests were devised for promoting a more definitive diagnosis of the reading difficulty. These tests were designed to assess the ability of children to handle figures and symbols.

The study includes an assessment of 2 different methods of reading instruction and attempts to relate performance on these methods with the results of diagnostic assessment.

Twenty-four children (22 males and 2 females), referred by school guidance personnel, were studied. The children referred appeared to have essentially normal intelligence but were having serious difficulty in learning to read. The mean age was 8 years, 10 months (range 7 years to 12 years, 9 months). Every child had repeated a grade or was under consideration for a repeat. Reading tests showed an average reading retardation of 1.4 grades below normal grade placement.

Each child was seen for 4 sessions of approximately 60 minutes, which were scheduled 2 to 4 days apart. The first session was devoted to a general assessment of the child and his situation. Psychologists administered the Wechsler Intelligence Scale for Children (WISC) and tests of reading ability on this occasion. The reading tests were the Wide Range Achievement Test and the Gray's Oral Reading Paragraphs Test. While the child was being examined, the mother was interviewed by the experimenter and a standard, detailed medical history of the child and his family was obtained.

The 2nd, 3rd, and 4th sessions consisted of periods of reading instruction on prepared word lists followed by periods of interpolated activity. The interpolated activity consisted of the administration of the special psychological tests devised for the project. Following this, the child was returned to the reading instruction and re-

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taught the word list learned according to the criteria in the initial instruction.

Independent word lists for the 3 different methods of reading instruction were prepared. The words for these lists were taken from the juvenile list of the Thorndike-Lorge Frequency Word Count(20). The words for each of these lists were matched as closely as possible for complexity and letter frequency. On beginning a period of reading instruction, each child was presented with the words from the list for that session. The 10 words were selected from those that he was unable to recognize from the word list on pretraining assessment.

The words to be learned were presented on flash cards. During instruction, the order of presentation of the words was randomized. Under each of the 3 different methods of instruction, the list of 10 words was initially learned using the criterion of the perfect recognition of each word in a single trial. The number of trials necessary constituted the child's score for initial learning. The same procedure was followed during the relearning period. The sum of initial learning and relearning scores was taken as the unit of measurement for each method of reading instruction.

The method of instruction in the second session was that of visual word presentation. The words to be learned were shown the child one at a time. If the child did not recognize the word it was supplied by the examiner and the child repeated it. The tests for the interpolated activity in the second session were the Embedded Figures Test (EFT) and the Finger Oscillation Test (FOT). A description of the EFT and procedures for its administration are given below. The FOT is omitted from description since it was not used in the analyses made in this paper.

Embedded Figures Test.—This test is patterned after the Gottschaldt Test as described by Thurstone(21). In this test the subject is presented with a simple figure and asked to find it in a more complex figure. Thurstone, in his version of the test, found it to carry heavy loadings of perceptual factors related to the ability to break up a complex figure to find a new one and the ability to hold the figure against disrupting influences. The EFT was presented

in booklet form. Motor factors were reduced by asking the child to denote the simple figure to be found in one of several complex figures by simply marking through his choice. The score on the test was the number of figures correctly denoted, divided by the time in seconds required to complete the task.

In the third session each child was helped to learn his list of 10 words by the kinesthetic tracing method. The words were traced by the child with his finger as he was helped to sound each letter and combination phonetically. Following each word tracing the child pronounced the word. The relearning procedure followed the same pattern of instruction. Scoring for initial and final learning was the same as for the method of visual presentation.

The tests employed during the interpolated activity of session 3 were the Kinesthetic Mazes Test (KMT) and the Reversible Figures Test (RFT), described below.

Kinesthetic Mazes Test.—This test was designed to provide a measure of ability to learn by kinesthetic cues when visual cues are absent. The KMT consisted of an instruction maze and 3 test mazes of varying difficulty. The mazes were cut from plywood in such a way that a stylus could follow the maze track from point of start to the end point at which an opening permitted withdrawal of the stylus. The mazes were presented in a blind box which removed opportunity for visual cues. After orientation to the procedure through trials on the instruction maze, the subjects were given 3 trials on each test maze, and the time in seconds required to solve the maze on each successive trial was recorded. The subject's score for each test maze was the time required for the third trial.

Reversible Figures Test.—This test was designed to assess ability to reproduce simple figures after a period of brief delay during which the stimulus figure was not visible. The figures, drawn on 4" x 7" cards, were such as to be subject to reversal. The cards were presented one at a time for a period of 3 seconds. The card was then removed and the subject, after a 3-second delay, was asked to draw it on paper. The number of reversals of the figures from the

orientation on presentation was taken as the test score.

Associative strengthening was used as the method of instruction in the 4th experimental period (omitted here since the results of this method are omitted from analysis).

The tests given in the period of interpolated activity during the 4th period were the Picture Perception Test (PPT) and tests of eye and hand dominance. Determination was made of the location of the child's hair whorl.

Picture Perception Test.—In this test, pictures and words were presented to the subject by means of a masking apparatus which uses a panel of masking light to obscure the test stimulus. Beginning at complete masking, the masking light was reduced in equal steps. At each level of masking, the stimulus picture or word was exposed for 5 seconds. During this period the subject initiated a verbal report of what he saw. At the completion of the verbal report for each masking level, the masking light was reduced one interval and the stimulus again exposed and verbal report given. By this method, discrimination thresholds for word recognition or picture content discrimination were determined.

The test picture consisted of a school room scene including teacher and pupils. On the school room blackboard was printed the word "CAT" which, when properly discriminated and reported, provided the discrimination threshold used in the analyses made in this report. This picture and procedure was employed because it was felt to provide a measure of the child's readiness to attend words presented in a normal context.

Dominance Tests.—The eye and hand dominance of the children were determined by standard tests of dominance and by history and observation. The child's hair whorl was located by determining its position with reference to the longitudinal suture.

RESULTS

The results of testing with the Wechsler Intelligence Scale for Children (WISC) are given in Table 1. The finding of a mean verbal scale I.Q. of 102, a performance scale I.Q. of 105, and a full scale I.Q. of 104 indi-

TABLE 1

Mean Scaled Score Values for WISC Sub-Tests and Verbal, Performance and Full Scale Mean IQs

Verbal scale sub-tests	Mean of scaled scores	Mean IQ
Information	9.2	102.1
Comprehension	10.0	
Arithmetic	8.8	
Similarities	10.2	
Vocabulary	12.9	
Digit span	8.3	
Performance scale sub-tests		
Picture completion	12.8	105.2
Picture arrangement	10.8	
Block designs	10.6	
Object assembly	10.4	
Coding	9.2	
Full scale		104.0

cates that the request for a sample of retarded readers with essentially normal intelligence was well met. The range for full scale I.Q.s in this group was from 80 to 123. The subject with a full scale I.Q. of 80, a girl diagnosed during the study as having overt evidence of central nervous system disorder, was omitted from all analyses of the data except for psychometrics and historical review. This brought the low end of the range for full scale I.Q. to 85. The psychometric test results given in Table 1 are for the 24 poor readers, randomly referred, and represent the sample of children who have reading difficulties but who might escape early diagnosis in the school and might be regarded as having normal potential for learning by parents and teachers.

Three sub-tests from the verbal scale are noted to be on the low side of normal. Only the coding sub-test from the performance scale is reduced. The finding of reduced test scores for digit span and coding sub-tests is similar to the results obtained by Rabinovitch (16), who studied older children with primary and secondary reading disorders. He also found the vocabulary sub-test to be reduced in both the primary and secondary non-readers, a finding not supported by this study.

The Rabinovitch study shows psychometric test results in which the WISC

verbal I.Q. is significantly reduced as compared with the performance I.Q. for the primary reading retardation group and reduced, but not significantly, for the secondary group. The discrepancy observed between verbal and performance scales in this study is not remarkable. This suggests that since Rabinovitch worked with children of more advanced age, psychometric test results in older children might be influenced by lack of reading ability in a manner to cause increased lowering of measured verbal intelligence with increasing age. This might be particularly true of the information and arithmetic sub-tests which should be responsive to educational training.

Should the above observations be valid, the digit span and coding sub-tests might well be the sub-tests most likely to reflect difficulty in basic reading processes and as such should be carefully evaluated for their diagnostic significance.

ETIOLOGIC VARIABLES

Because problems of lateral dominance, as evidenced by left laterality or ambilaterality, reading difficulty in the family, and subtle central nervous system dysfunction have been suggested, as of etiologic significance by other workers, particular attention was given these variables in the historical review.

In isolating the cases in which subtle central nervous system dysfunction might be a factor, those cases in which the pregnancy or birth was atypical and those in which postnatal development indicated possible damage to the infant were placed in one category under the heading "atypical birth." Cases were assigned to this category if the pregnancy with the child was characterized by significant vaginal bleeding that required bed rest and/or hormonal therapy. Also placed in this category were cases in which the infant demonstrated respiratory distress following delivery to the extent that oxygen therapy was required. One infant placed in this category showed pronounced jaundice following delivery, another because the infant showed slow closing fontanelles.

Cases were categorized as having a problem of lateral dominance if left laterality or

ambilaterality appeared in 2 or more generations of the family.

The results of this analysis are given in Table 2, from which can be seen a variety

TABLE 2

Frequency of Left or Mixed Laterality, Reading Difficulties, and Atypical Births in Retarded Readers

	Frequency	
Left or ambilaterality in 2 or more generations	3	
Left or ambilaterality in 2 or more generations plus parent or grandparent with reading difficulty	5	3 ^a
Left or ambilaterality in 2 or more generations, plus reading difficulty in parent or grandparent, plus atypical birth	2	2 ^a
Left or ambilaterality in 2 or more generations plus atypical birth	1	
Total number of cases showing left or mixed laterality	(11)	
Reading difficulty in parent or grandparent	1	
Atypical birth only	7	
No positive findings	5	
Total	24	

^a Left laterality or ambilaterality found in stock of both parents for 2 or more generations.

of possible causes for the reading difficulty. If the assumptions regarding lateral dominance can be accepted as causative, 11 of the 24 children would have positive findings on this variable.

Subtle central nervous system disorder, as it might relate to the conditions included under the category "atypical birth," appears as a possible cause in 10 instances. Three of these overlap with a problem of lateral dominance. Reading disability in the family, as an isolated variable, occurs in only one instance. This leaves only 5 cases which might be regarded as free from the diagnostic variables given attention in the table. Eight instances of reading disability are reported in the parent or grandparent generations of the retarded readers; 5 of the children came from families in which both parents show problems of lateral dominance in the family strain.

Seven of the mothers of the retarded read-

ers gave a history of natural abortions; 6 of these mothers had had 2 or more abortions, and the mean number of abortions for the 7 mothers was 2.4. This incidence of abortions is above expectancy according to data supplied by Eastman(5). Bleeding during pregnancy was the most common cause of "atypical pregnancy" recorded in this study and accounted for 3 of the 10 instances where this variable was recorded. Kawi and Pasamanick(13) have concluded that some childhood reading disorders result from minimal cerebral injury as a result of abnormalities of the prenatal and paranatal periods. Such abnormalities included toxemias and bleeding during pregnancy.

Examination of the records of the 5 children without positive findings on the variables categorized for study shows that 4 had WISC full scale I.Q.s in the range from 88 to 96. The 5th child had an I.Q. of 112. This boy showed evidence for passive resistance in his behavior. He came from a home in which the child rearing practices were strict and punitive. These observations, plus the fact that test evidence indicated no basic disorder in the skills necessary for reading, suggested that his reading retardation was due to secondary factors.

Inspection of the WISC data for the 4 remaining children showed little disparity between verbal and performance scale intelligence except for one instance. These findings suggest that reading retardation in these children might be associated with generally lower intelligence or to secondary factors not clearly delineated by the design of this study.

An appraisal of these data suggests that reading retardation might occur on the basis of lateral dominance problems, subtle central nervous system disorder associated with atypical birth, pregnancy and post-natal development, and on the basis of moderately lowered intelligence or secondary factors.

Friedman(8) has provided evidence that congenital handedness can be determined by the hair whorl sign. His data also indicate that environmental training and influence modify congenital left-handedness and congenital ambilaterality. While 20 of the children in the present study were found to be right-handed, the hair whorl data suggest

the possibility that their congenital orientation might well have been altered.

Of the retarded readers, 54% showed a right hair whorl indicating congenital left laterality, 21% showed a left hair whorl indicating congenital right laterality. These percentages contrast sharply with those expected on the basis of Friedman's data. He found the expected percentage for a right whorl to be 21% and that for a left whorl to be 70%. Application of the chi square test of significance to these observed and expected frequencies, expressed in percent, was 20.6. This value of chi square is significant at the 0.01 level. This would suggest that the sample of retarded readers used in this study shows a greater than normal tendency to congenital left laterality, as measured by the hair whorl sign, despite the fact that the majority of the children were right-handed.

The hair whorl data leave the implication that the sample of retarded readers includes a number of children who were congenitally destined to be left-handed and who, through environmental influences, have shifted to a right-handed orientation. That eye dominance need not follow such a shift in handedness would be indicated by the observation that 5 of the children showed crossed eye-hand dominance.

The above data assume special significance when one recognizes the evidence to the effect that reading disability is less likely to occur in children who show strong right-hand dominance(4, 17). In this regard, Hildreth(12) has given data indicating that failure to establish consistent dominance by school age is likely to produce confusion in the acquisition of psychomotor skills and cause difficulty in speech and reading. It seems plausible here to hypothesize that a number of the retarded readers might show this slowness on the basis of a shift from their congenitally determined laterality.

DEVELOPMENT AND BEHAVIOR CHARACTERISTICS

Table 3 summarizes the data covering the developmental and behavioral variables isolated for analysis.

Motor awkwardness was recorded where historical information plus clinic observa-

TABLE 3

Frequency of Developmental Problems
and Behavioral Signs in Retarded Readers

	Frequency
Motor awkwardness	10
Speech problems	14
Developmental delay	5
Behavior signs	
Hyperactivity	8
Accidents	9
Enuresis	16
Nervous habits	14
Allergic reactions	9
Headache or stomach ache (7-6)	13

tions indicated this to be a factor. Records of 10 of the children showed evidence for motor awkwardness.

Speech problems were recorded if the child's parent gave a history indicating concern over lack of clarity in the child's speech or if the child demonstrated speech pathology in the project sessions. Fourteen of the children were recorded as having speech problems; 1 child had had formal speech therapy; and 3 were regarded as having significant deviations in speech at the time of the study. Immature speech characterized by the substitution and omission of speech sounds was the characteristic speech pattern for these children.

Evidence for developmental delay was recorded for 5 cases which showed 30% or more retardation in meeting the basic early landmarks of development in speech and postural motor control. In all cases so recorded, deviations from normal were mild. Most of these children appeared to have caught up with the developmental norms by the third year.

Hyperactivity was reported as characteristic of 8 of the children. In 6 of these cases, the mother reported the child to have been notably active *in utero*. Hyperactivity of the fetus was usually found with mothers who were under stress during their pregnancy. Hyperactivity in the children during study sessions was not gross, and clinically the children could be described as only moderately active.

Accidents, as recorded in Table 3, were those severe enough to require medical attention. Nine children had had 2 or more

significant accidents. Injuries to the head, such as concussion and severe scalp lacerations, were the most common and were reported for 6 of the 9 children.

Enuresis was recorded if it persisted past the 5th year. The majority of the 16 patients who showed enuresis were still enuretic at the time of the project. One enuretic patient also soiled.

Nervous habits were recorded if the child demonstrated nail biting, masturbation, tics, scratching, thumbsucking or sleep disturbance. Fourteen children were recorded as showing one or more such manifestations of nervousness. Usually the evidence for nervous reactions was gross and included reports of restlessness, irritability, and emotional lability.

Allergic reactions were frequent in the histories of the slow readers. Nine children had histories of allergic reactions requiring drug therapy or medical supervision of their diet; 7 children had histories of chronic headache sufficient to interfere with school attendance or play activities; and 6 children gave histories of chronic stomach-ache.

These observations support what has been learned from other studies(2, 6, 9) that somatic complaints, nervous habits, maladaptive behavior, emotional stress, and disturbed physiologic functioning are associated with reading difficulty in early childhood.

In the following analyses of data dealing with methods of instruction and special tests, 3 of the subjects in the original group were dropped from the study. The 2 girls and the oldest boy were dropped to provide a more homogeneous group. The group of slow readers as reconstituted consisted of males between the ages of 7 years and 10 years, 9 months. The mean retardation in reading was 1.3 grades for this group.

METHODS OF INSTRUCTION

Because the kinesthetic method of word tracing is recommended by some teachers of remedial reading, this method was employed in the project teaching. Since the effectiveness of the method is questioned by others who advocate the method of visual word presentation, a check on the effectiveness of the 2 methods and an assessment of

the relationship of the 2 methods to diagnostic data were desired.

It should be mentioned here that the kinesthetic tracing method as employed in this project is not regarded as a full and true application of kinesthetic teaching procedures. The procedure used was simply designed to determine whether the incorporation of kinesthetic cues adds beneficially to the learning process in a group of slow readers.

Results comparing word learning under the different methods of instruction are given in Table 4, which shows that the

REVERSIBLE FIGURES TEST (RFT)

This test was included in the battery of tests because of the common observation that children with reading difficulty, as well as children who are beginning reading instruction, commonly rotate and reverse words and symbols.

In designing this test, a brief delay was introduced following removal of the stimulus figure before the child was permitted to attempt its reproduction. In this design the investigators were attempting to reproduce the conditions commonly experienced in the classroom where the child in copying from

TABLE 4
Comparison of Methods of Reading Instruction

Method of Instruction	Initial learning	Mean number of trials to criteria		\bar{X}_d	S.E.
		Relearning	Combined Initial and relearning		
Visual word presentation	6.6	2.4	9.0	0.6	2.145
Kinesthetic method	6.6	3.0	9.6		

kinesthetic tracing method offered no particular benefit to the subjects and was, in fact, less adequate for learning than simple visual word presentation although not significantly so. The difference between mean learning scores for the 2 methods was 0.6 trials and was not significant upon application of the t-test for significance. It is notable that the subjects did equally well on both methods of instruction during initial learning, but relearning by the kinesthetic method was in the direction of greater difficulty.

In observing the performance of those children who showed improvement under the kinesthetic method, it was noted that these subjects were mainly those who tended to use avoidant techniques which prevented their attending the words closely. Tracing, if it has merit, might well derive some benefit from the fact that it forces the child to pay attention to the word. In substance, these data suggest that the method of kinesthetic instruction, as employed in this project, was not of significant or uniform benefit to the retarded readers.

blackboard or from book to paper, has to make the transfer without the stimulus immediately present as he copies on his paper. It was hypothesized that, in the absence of the immediate stimulus over a brief delay, underlying predispositions to reorganization might alter the stimulus pattern.

The results of this test bear out the hypothesis that children with reading difficulty have real difficulty in the perceptual stabilization of figures. Examination of the RFT results shows that reversals and rotations are common up to the age of 8½ years in the slow readers. Only 1 child below this age did not show at least one such reversal or rotation. The mean rotation-reversal score for these children was 3.4. The children over 8½ years had a mean rotation-reversal score of 0.4, and only 3 children had this difficulty. This tendency then appears to be marked up to the age of 8½ years in the slow reader group and diminishes with increasing age.

The RFT was given to a group of 16 children matched in age and performance scale I.Q. on the WISC to the 16 slow

readers studied in this project. These children were found to be able readers by test and by their school performance. The age match used for comparison here reduced the age range for the group of slow readers and the group of able readers to the range between 7 and 9 years.

Examination of the RFT results obtained from the group of able readers showed in all only 2 rotation-reversal errors. One such response was obtained from each of 2 children under the age of 8½ years. These observations suggest that the tendency to reversal and rotation of figures and symbols, as given in response to the RFT, is more pronounced in the population of slow readers and that the tendency diminishes with age.

EMBEDDED FIGURES TEST

The EFT was employed in this project because it was felt that the ability to hold a simple figure against distraction and the ability to break up complex figures to find a more simple figure were functions closely associated with the reading process. Cobrinik(3), and Teuber and Weinstein(19), working with a test similar to the EFT, have shown that brain injured children perform poorly on tasks involving the extraction of simple figures from more complex ones.

The scores of the 16 children from the slow reader group and the group of 16 able readers described above were 10.7 and 13.1 respectively. The mean difference between group means was 2.4, which, when tested for significance by the t-test, produced a value of t of 2.336, significant at the 0.05 level.

From this it would appear that the EFT discriminates between able readers and slow readers in the age range 7 to 9 years. These data further suggest that the slow readers have greater difficulty holding and isolating simple figures in complex configurations. The observation that brain damaged children perform poorly on this type of test material suggests that subtle brain damage might be a factor contributing to the lower scores in the slow reading group.

CORRELATIONAL STUDIES

Pearsonian coefficients of correlation were

calculated for the variables of interest in this study. These data are given in Table 5,

TABLE 5
Intercorrelations of Project Tests and Instructional Methods

	EFT	Visual Word Presentation	Kinesthetic Method	PPT "CAT"
EFT		-0.42	-0.40	+0.60
RFT	-0.53	+0.51	+0.58	+0.58
KMT	-0.17	+0.19	+0.21	
WISC Coding Test	+0.57	-0.04	-0.22	
WISC Digit Span	+0.74	-0.24	0.22	+0.20
Reading Level		-0.58	-0.59	
WISC Full Scale	+0.36			

from which it can be observed that scores on the RFT are associated with learning proficiency on both the visual and kinesthetic tracing methods of reading instruction. The correlations, though low, are significant, indicating that the functions involved in RFT performance are associated with the capacity to learn to discriminate words correctly. Similarly, the correlation coefficient of 0.58 with the discrimination threshold for the word CAT as given in the PPT indicates that the RFT functions are operative in discriminating words from pictorial context when given under conditions of visual impoverishment.

The test scores from the EFT are positively associated with learning ability for both methods of reading instruction used in this study. However, correlations here are of very low order and are not significant by test.

The EFT does show significant but low correlations with the coding and digit span tests from the WISC, which, it will be recalled, were presumed from earlier observation to be of possible diagnostic import for reading retardation. In view of the ability of the EFT to discriminate between slow readers and able readers, the findings of significant correlation between this test and the coding and digit span tests of the WISC

suggest the desirability of using these WISC sub-tests as diagnostic cues in diagnosing reading difficulty.

Of particular interest is the degree of association found between EFT scores and the discrimination thresholds for the word CAT presented under the masking conditions of the PPT. The correlation here is moderate but significant. Readiness to attend and resistance to distractions of context would appear to be measured by the EFT. This observation is supported by the high correlation found between the EFT and digit span, a test that is accepted as a measure of ability to attend.

Examination of the data regarding the kinesthetic mazes test shows that this test is not significantly related to the methods of reading instruction used here and that contrary to the findings of French(7) kinesthetic learning as employed here seems to bear little relation to learning to read.

Inspection of the correlations of WISC full scale I.Q. with methods of reading instruction shows them to be of very low order. It would appear that the ability to learn to read is more dependent upon specific skills than upon measures of general intelligence.

CONCLUSIONS

The purpose of this study has been to assess historical and test material in order to arrive at a basis for making an early diagnosis of reading difficulty in young children. An intensive study of 24 children with reading difficulty has provided the basis for the following conclusions:

1. A careful medical history which explores the family background for reading problems and problems of lateral dominance, and which makes inquiry into the details of pregnancy and early development can contribute significantly to the diagnosis of reading difficulty. The majority of the children with reading difficulty were found to show a family history characterized by reading problems and/or laterality other than right in 2 or more generations. Atypical pregnancy, birth, or neonatal development was characteristic of other children with reading difficulty and subtle central nervous system dysfunction seems likely to

be a factor in the reading performance of these children.

2. Stress reactions in otherwise healthy, intelligent children of early school age should cause the physician to consider the possibility of reading difficulty in his evaluation of the child.

3. In young children of normal intelligence, skills of visual perception appear to be more closely associated with success in reading than general intelligence. Among these perceptual skills is the ability to hold perceived figures in true spatial orientation over brief intervals in the absence of the immediate stimulus, and the ability to find and hold simple figures in more complex ones. The Embedded Figures Test and the Reversible Figures Test provide a method of quantitative assessment of these abilities and are suggested as helpful diagnostic tools.

4. Low scores on the digit memory span and coding sub-tests of the Wechsler Intelligence Scale for Children appear as possible indicators of reading difficulty in young children and should alert the diagnostician to the need for further study of this possibility.

5. The addition of kinesthetic cues in reading instruction appears to have been of little benefit to the slow readers in learning word lists.

6. The hair whorl sign, as a measure of congenital laterality, appears to be significantly related to the problem of reading difficulty. That a shift from congenital laterality to environmentally determined laterality might be a factor in the determination of early reading problems is suggested by this study.

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PARENTAL DEVIANCE AND THE GENESIS OF SOCIOPATHIC PERSONALITY^{1, 2}

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The nature and cause of the disorder sociopathic personality have been sought with a wide variety of techniques including those which emphasize heredity, constitution, neurophysiology and relationship between parent and child. In the past 20 years, the preponderance of literature on sociopathic or psychopathic personality deals with parental or environmental causation. Many authors have suggested that a rejecting parent is the responsible agent in the development of sociopathic personality. Some studies report the mother as the consistently rejecting causative agent while others posit the father in this role (1, 2, 3, 4).

The role of parental rejection in the development of sociopathic personality needs further study. Previous studies have failed to specify the nature of the parental rejection, whether it is harsh physical treatment, actual abandonment of the child, indifference, or coldness; whether these all constitute rejection, and whether they are equally related to the development of sociopathic personality. Granting that various forms of parental rejection do occur in the early histories of individuals who develop sociopathic personality, previous studies have also failed to compare the rate of rejection such children experienced with the rate experienced by children who developed other psychiatric diseases or who never developed a psychiatric disease.

The present paper will investigate how many boys seen in a child guidance clinic, who were later diagnosed "sociopathic personality," experienced various kinds of pa-

rental treatment, and to what extent they differed in these experiences from boys who turned out to have other diagnoses as adults.

The present report is part of a larger study of 524 children who were seen 27-32 years ago in a child guidance clinic. It also includes 100 control subjects selected from public school records. Of the total group of 624 subjects, 90% have been located. Twenty-one (4%) of the patients and one (1%) of the control subjects died before age 25. Their adult adjustment could not, therefore, be studied and no effort was made to obtain information about them. Of those who survived until at least age 25, interviews were obtained with 67% of the patients (74% of those presumed still alive at the time of the interview). Information was obtained by interviewing relatives or friends of another 15% who had died, refused, or could not be located. There is no interview information about 18% of the patients. Of the control subjects who survived until age 25, 82% have been personally interviewed (89% of those alive at time of interview), and relatives of an additional 8%.

The methods of selecting subjects and obtaining data about them have been described in detail elsewhere (5). All individuals interviewed were asked standardized questions which investigate in detail psychiatric and medical symptoms, as well as social history and adjustment. Interview information has been verified by systematic checking of public and private records including hospital, social agency, police, V. A., physicians' records, and credit ratings. In cases where no interview could be obtained, there was occasionally sufficient record information to permit making a diagnosis.

Diagnoses were made independently by two psychiatrists, who then met to resolve differences of opinion. Their clinical diagnosis was based on both interview material and record information. They diagnosed 20%

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of the patients as sociopathic personality, as compared with only 2% of the control subjects. They considered 17% of the former patients to be without psychiatric disease, as compared with 48% of the control subjects. The remaining 51% of the patients and 41% of the control subjects were diagnosed alcoholic (patients-7%, controls-2%), schizophrenia (patients-5%, controls-2%), manic depressive disease (patients-1%, controls-2%), chronic brain syndrome (patients-2%, no controls), other psychosis (patients-2%, controls-1%), hysteria (patients-4%, no controls), anxiety neurosis (patients-6%, controls-10%), other neurosis (patients-6%, controls-12%), undiagnosed but probably psychiatrically ill (patients-18%, controls-12%). Twelve percent of the patients and 9% of the control subjects constitute the "no estimate" group for whom sufficient information was not obtained.

This report is concerned only with the male patients in the study. It is composed of three groups: those diagnosed sociopathic personality as adults (84 cases), those diagnosed "no disease" (75 cases), and those with all other psychiatric diseases (166 cases). The distribution of diagnoses can be seen in Table 1.

TABLE 1
Diagnoses For Male Patients
(Excluding "No Estimate" Group)

Sociopathic personality	26%	(84)	
Other Diagnoses	51	(166)	
Alcoholic			9%
Schizophrenic			7
Chronic Brain Syndrome			3
Other & Undiagnosed Psychosis			2
Anxiety Neurosis			5
Other & Undiagnosed Neurosis			5
Undiagnosed, Sick			20
No Disease	23	(75)	
	100%		
	(N=325)		

Diagnostic Criteria. The psychiatrists agreed that a diagnosis of sociopathic personality would require at least 5 of the following symptoms: poor work history, poor marital history, excessive drugs, excessive alcohol, repeated arrests, aggression or belligerency, sexual promiscuity or perversion, suicide attempts, markedly impulsive be-

havior, poor school history with truancy, financial burden on society, poor army records, vagrancy, numerous somatic symptoms, pathological lying, lack of friends, use of aliases, lack of guilt about sexual exploits and crimes, and reckless youth (Table 2).

TABLE 2
Proportions Of The Three Diagnostic Groups
Showing Symptoms Used As Criteria For
Diagnosing Sociopathic Personality

	SOCIOPATHIC PERSONALITY (84)	OTHER DIAGNOSES (166)	NO DISEASE (75)
Poor work history	82%	31%	13%
School problems and truancy	80	49	26
Public financial care (in- cluding hospitals and prisons)	77	41	9
Repeated arrests	76	34	7
Poor marital history	70	22	1
Impulsive behavior	67	22	7
Physical aggression	62	33	11
Vagrancy	62	22	8
Heavy drinking *	57	50	12
Reckless, irresponsible youth	57	17	9
Sexual promiscuity or perversion	57	27	11
Lack of friends	52	37	7
Lack of guilt	35	8	1
Use of aliases	30	4	0
Many somatic symptoms *	29	30	4
Poor Armed Services record	26	12	3
Pathological lying	15	3	0
Excessive drugs	13	3	0
Suicide (attempts) *	7	3	0

* Only these symptoms fail to show a significant difference between "sociopathic personality" and "other diagnoses."

Criteria for each of these symptoms were carefully defined. No one of these items was given more weight than any other. While it might have been preferable to attach primary importance to lack of guilt, sometimes called (6, 7) the "distinguishing feature" for the diagnosis of sociopathic personality, evaluation of the presence or absence of guilt is inevitably dependent on the examiner's subjective impression. The other criteria used can be more strictly defined, are more quantitative, and therefore more likely to show reliability between observers. The symptoms as a group reflect the impulsiveness, the failure to learn by experience, and the chaotic life pattern all thought to

be characteristic of sociopathic personality. The requirement that subjects show symptoms in a variety of areas of their lives eliminated some who would have been classified as "sociopathic personality disorder" using the criteria in the *Diagnostic and Statistical Manual* (8). Individuals with disturbances in only one or two areas of their lives (e.g., homosexuality only) were not so classified. The most difficult differential diagnosis was between sociopathic personality and schizophrenia because many schizophrenics had shown marked antisocial behavior. For the diagnosis of schizophrenia to be made, however, evidence of thought disorder was necessary. Similarly, antisocial behavior in the presence of chronic brain syndrome was not diagnosed sociopathic personality. Many of those diagnosed sociopathic personality had excessive alcohol intake, but this occurred in a context of antisocial behavior which invaded most spheres of their lives and antedated the history of drinking. Those diagnosed alcoholic had fewer antisocial symptoms and these symptoms were directly related to excessive alcohol intake. Therefore, although alcoholism is technically a subgrouping of sociopathic personality disorder, we have treated alcoholism and sociopathic personality as separate entities.

Subjects diagnosed sociopathic personality had an average (median) of 10.3 sociopathic symptoms out of a possible 19. The symptoms which best discriminated the diagnosis of sociopathic personality (i.e., symptoms occurring most frequently in patients so diagnosed and least frequently in others) were poor work history, poor marital history, repeated arrests, impulsivity, and public financial care (Table 2).

Diagnoses of other psychiatric illnesses were based on the criteria used in the *Diagnostic Manual*. A patient was called "no psychiatric disease" only when he does not have and has never had more than three symptoms which could be construed as psychiatric symptoms (e.g., complaints of tension, emotional lability, vague somatic symptoms) or even one unexplained psychiatric symptom sufficiently disabling to cause him to seek medical help. The label "undiagnosed psychiatric disease" has been applied when the person had obvious psychiatric

symptoms, but ones which do not fit any diagnostic category, or when there was no agreement on the diagnosis between the reviewing psychiatrists.

All diagnoses, including that of sociopathic personality, were made on a longitudinal basis, i.e., if the patient met the established criteria at any period during his adult life (after age 18). For most of those diagnosed sociopathic personality (78%), the symptoms were still present at the time of follow-up. For 21% in whom there was a marked diminution in symptoms, age of remitting⁴ was most frequently 30-35, but a sizeable proportion of remissions (one-fourth of those remitting) occurred after age 45. There appeared to be no upper age limit after which improvement did not occur.

Examination of the childhood records of patients diagnosed sociopathic personality disorder showed antisocial behavior extending far back into childhood. Three-quarters had been seen in juvenile court and an additional 14% had had some police difficulties in childhood. Only one patient diagnosed sociopathic personality had no record of antisocial behavior in childhood.

FINDINGS

Findings will be presented concerning 1. Kinds of parental behavior experienced by boys in the three diagnostic groups, 2. The relative importance of the behavior of the mother and father as related to diagnosis, 3. The relationship between parental behavior, social class, and the development of sociopathic personality.

Relation of Parental Rejection to Diagnosis. Clinic records describe many types of parent-child relationships that could plausibly be identified as indicating parental rejection. These included excessive strictness, coldness and lack of love, public repudiation,⁵ family desertion, non-support,

⁴ Remissions were scored only if there was a continuous period of markedly diminished antisocial behavior beginning at least 3 years prior to time of follow-up.

⁵ Repudiation was defined as a positive act by the parent to report the child to the authorities, to ask to have the child placed outside his home, voluntarily to give him up to relatives or foster parents, or to ask for treatment because the child was beyond his control.

neglect of housekeeping functions such as cooking and cleaning, failure to supervise, and failure to discipline. Obviously this list includes very diverse relationships between parent and child: In some cases the child is singled out as the object of the parent's disapproval; in others, rejection occurs only in so far as the child is a member of the family group towards which the parent is not upholding his responsibilities. In some cases the child is the object of a hostile act by the parent; in others he presumably suffers from the parent's failure to act.

To investigate the relation of these parental behaviors to the development of sociopathic personality, the rate of occurrence of each kind of behavior was compared for those diagnosed sociopathic personality, other diseases, and no psychiatric disease (Table 3). Failure to supervise, repudiation

TABLE 3
Types Of Parental Behavior Suggesting "Rejection"

	SOCIOPATHIC PERSONALITY (84)	OTHER DISEASES (166)	NO DISEASE (75)
Distinguish sociopathic personality from "no disease" and "other diseases"			
Failure to supervise	65%	45%	24%
Public repudiation	51	35	25
Desertion	32	20	8
Non-support	33	24	16
Distinguish sociopathic personality from "no disease" only			
Neglect by mother	27	22	7
Harsh discipline	13	23	36
No significant differences			
Lack of love	12	14	16
Excessive leniency	58	46	39
Lack of interest	25	14	16

χ^2 (sociopathic personality vs. other diseases): failure to supervise=6.298, $p<.02$; public repudiation=5.615, $p<.02$; desertion=4.54, $p<.05$; non-support (vs. other disease group with four or fewer sociopathic symptoms)=7.47, $p<.01$

χ^2 (sociopathic personality vs. no disease): failure to supervise=27.61, $p<.001$; public repudiation=10.89, $p<.001$; desertion=14.127, $p<.001$; non-support=6.56, $p<.02$; neglect=11.15, $p<.001$; harsh discipline=9.519, $p<.01$

by the parent, and desertion were found to be significantly higher for patients with sociopathic behavior disorder as compared with those with other diseases and those with no disease. Non-support and negligence

were significantly higher for parents of those diagnosed sociopathic personality as compared with parents of the no disease group, but not as compared with parents of patients with other psychiatric diseases. When the comparison was limited to patients with sociopathic personality vs. those with other diseases who are relatively free of antisocial behavior, non-support was found to have occurred significantly more frequently in the former, but negligence was unrelated. Harsh discipline occurred significantly less frequently in parents of those with sociopathic personality than in the no disease group, but did not distinguish the former from those with other diseases. Parental lack of love, lack of interest, and excessive leniency were not found to be related to the later development of sociopathic personality.

Obviously then, these parental behavior patterns, which had all appeared potentially interpretable as "rejection," were not part of a unitary phenomenon. Some of these items of behavior were strongly related to the development of sociopathic personality; others were not related or negatively related. Some of these distinguished patients with sociopathic personality from those with other psychiatric diseases; others only distinguished well patients from those with psychiatric disease.

Difference between the Behavior of Fathers and Mothers. Behavior that could be regarded as rejection is reported more frequently for fathers than for mothers (Table 4). This may result in part from the fact that mothers were more often informants in the clinic than fathers, and more likely to report behavior to the discredit of their spouses than of themselves. Since rejecting behavior is rarely reported for mothers, none of the mother's behavior appears important in determining sociopathic personality as compared to other psychiatric diseases. However, supervision, the lack of which we previously found highly related to the occurrence of sociopathic personality (Table 3), might be considered predominantly the mother's function. In failing to supervise, she apparently contributes significantly to the development of sociopathic personality. Desertion by the father is positively correlated with socio-

TABLE 4
Rejecting Behavior By Mothers And Fathers

	SOCIOPATHIC PERSONALITY (84)	OTHER DISEASES (168)	NO DISEASE (75)
Mothers			
Negligence *	27%	22%	7%
Desertion	11	5	3
Physical abuse	5	4	1
Cold	0	2	0
Fathers			
Desertion **	35	22	11
Non-support *	33	24	16
Physical abuse	21	23	17
Cold ***	1	8	13

* Significantly higher in sociopathic personality than in no disease. ($X^2=11.15$, $p<.001$; non-support = 6.56, $p<.02$).

No significant differences between sociopathic personality and other diseases. Non-support was significantly higher ($X^2=7.47$, $p<.01$) in sociopathic personality than in those with other diseases who had few anti-social symptoms as adults.

** Significantly higher in sociopathic personality than in both no disease ($X^2=12.76$, $p<.001$) and other diseases ($X^2=4.832$, $p<.05$).

*** Significantly lower in sociopathic personality than in no disease ($X^2=9.026$, $p<.01$) and other diseases ($X^2=5.983$, $p<.02$).

pathic personality in the son; coldness is negatively correlated; and physical abuse is not related.

Divorce. Parents of boys who were later diagnosed sociopathic personality had a high rate of divorce, as compared with both the other two groups (Table 5). Divorces that had taken place for each parent were counted, whether or not the marriage that had produced the patient ended in divorce.

TABLE 5
Parental History Of Divorce
(Before Child Referred To Clinic)

	PARENTS OF PATIENTS WITH SOCIOPATHIC PERSONALITY	PARENTS OF PATIENTS WITH OTHER DISEASES	PARENTS OF PATIENTS WITH NO DISEASE
No history of parental divorce	71%	82%	91%
History of divorce	29	18	9
	100%	100%	100%
	(N=147)	(N=281)	(N=137)

N—total parents from whom divorce history is known. Since each child had two parents, if information were available for all, the N would be double the number of patients with the disease.
 X^2 (sociopathic personality vs. no disease) = 15.663, $p<.001$
 X^2 (sociopathic personality vs. other diseases) = 7.106, $p<.01$

Often one or both parents had been divorced prior to marriage to each other and more than one-fourth of the parents had been divorced by the time the child came to the clinic. These figures do not include the high rate of separations which also reflect the marked interpersonal difficulties of the parents.

Probable Psychiatric Disease of Parents. From the description of parents in childhood clinic and juvenile court records and supplemented by interviews with the patients, it was possible to estimate psychiatric diagnoses for the parents. Probable parental diagnoses were categorized as sociopathic personality or alcoholism, all other psychiatric diagnoses, and no known psychiatric disorder.

Parents were diagnosed probable sociopathic personality if there was a history of gross failure to fulfill social norms. Typical fathers so diagnosed had histories of chronic absenteeism from work or repeated quitting of jobs, sexual promiscuity, heavy drinking, recurrent desertion of the home, and arrests for theft. Mothers had histories of open illicit sex relations, failure to keep the house or children clean, drinking, poor job history, often being fired because of stealing. While the diagnostic criteria for sociopathic personality in the parents include some forms of behavior previously discussed as possibly experienced by the child as "rejection," they also include antisocial behavior directed primarily at the rest of the family or at the larger society. We have grouped sociopathic personality and alcoholism together because

our lack of a careful chronological history of the parents' symptoms makes it impossible to establish the primacy of the drinking over other forms of antisocial behavior. Excessive drinking was frequently associated with other kinds of antisocial behavior.

Parents diagnosed as having other psychiatric diseases included those whose symptoms were severe enough to interfere with normal routines (*i.e.*, "nervous breakdown," inability to care for home and/or children, inability to work, hospitalization), plus those said by the clinic to be suffering from psychiatric illnesses.

The probable diagnoses of the mothers of patients with sociopathic personality were not significantly different from those of the mothers of all other patients (Table 6). However, the diagnoses of the fathers were strikingly related to the adult diagnoses of

the patients. Fifty-one percent of the sociopathic personality patients had fathers diagnosed sociopathic personality or alcoholism, while 33% with other psychiatric diseases and only 19% with no disease had fathers so diagnosed.

When a patient had a sociopathic or alcoholic mother, he usually had a sociopathic or alcoholic father as well. Such mothers occurred alone so rarely that the disease could not be studied as a separate factor in the development of sociopathic personality. The few cases found (11) did not, however, yield a high rate of sociopathic children (9%) (Table 7). Having two sociopathic or alcoholic parents appears to produce a somewhat higher rate of offspring with sociopathic personality, but the difference was not statistically significant.

Childhood Social Status. In our society, social status is highly dependent on the ability and willingness of the father first to complete his education and then to work steadily and consistently. Obviously then, fathers with sociopathic personality, a disease characterized by poor school and work records (see Table 2), are likely to provide low social status for their children. Since the fathers of the patients had a high rate of the same disease, it is not surprising to find that the patients were brought up in families of extremely low social status, lower even than that of this predominantly lower class clinic population (Table 8).

The socio-economic status of the subjects at the time of referral has been divided into 5 categories based on the occupation of the real or adoptive breadwinner, the usual level of income, and the family's success in maintaining financial independence. Eight percent of the clinic population fell into the

TABLE 6
Probable Psychiatric Disease Of Parents

	SOCIOPATHIC PERSONALITY (84)	OTHER DISEASES (168)	NO DISEASE (75)
Parents			
Sociopathic or alcoholic			
Mother	13%	9%	4%
Father	51	33	19
Other Disease			
Mother	23	28	23
Father	7	11	7
None Known			
Mother	64	63	73
Father	42	56	74

Mothers: χ^2 = not significant.

Fathers: χ^2 = (Sociopathic personality vs. no disease) = 19.34, $df=2$, $p<.001$.

χ^2 (sociopathic personality vs. other diseases) = 8.08, $df=2$, $p<.02$.

TABLE 7
Effect Of Having One Or Both Parents
Sociopathic Or Alcoholic

	BOTH PARENTS SOCIOPATHIC OR ALCOHOLIC (N=19)	FATHER ONLY (N=94)	MOTHER ONLY (N=11)
Patient's diagnosis:			
Sociopathic personality	53%	35%	9%
Other diseases	37	52	82
No disease	10	13	9
	100%	100%	100%

TABLE 8
Childhood Socio-Economic Status

SOCIO-ECONOMIC STATUS	SOCIOPATHIC PERSONALITY (N=82) *	ALL OTHER DIAGNOSES (N=164) *	NO DISEASE (N=71) *
Professional or executive	4%	9%	14%
White collar	11	10	18
Self-sustaining blue collar	34	42	48
Extremely poor	33	26	16
Declassed (prostitutes, criminals, vagrants)	18	13	4
	—	—	—
	100%	100%	100%

* N's include all those for whom socio-economic status could be estimated.

X² (sociopathic personality vs. other diagnosis)=not significant

X² (sociopathic personality vs. no disease)=19.41, df=4, $p < .001$

top category, professional or executive; 12% into the white collar category; 40% into self-sustaining blue collar; 25% into the extremely poor; and 12% into the "declassified" (prostitutes, criminals, vagrants). For 3% status could not be determined because the children had been removed from the parental home and had not entered a permanent foster home. Patients diagnosed sociopathic personality as adults came in disproportionately large numbers from homes that were extremely poor or "declassified" (51% as compared with only 19% of the no disease group). Those diagnosed as having other psychiatric illness are intermediate between the sociopathic personality and no disease groups and do not differ significantly from the former. Therefore, lower class status, while more frequent in the childhood of those diagnosed sociopathic personality, does not appear to determine the appearance of this specific disease.

While sociopathic personality in adult life appears to occur more often in those with an impoverished childhood environment, a "good" socio-economic environment does not preclude the possibility of this diagnosis, since 15% came from the white-collar, self-supporting families.

DISCUSSION

We have compared the rates of various kinds of parental behavior which may have been experienced as rejection for 3 groups of male patients of a child guidance clinic: those diagnosed sociopathic personality as adults, those with other psychiatric diag-

noses as adults, and those with no psychiatric disease. We have compared the proportion of fathers and mothers for whom such behavior has been reported, the proportion of parents divorced, the probable psychiatric diagnoses of the parents, and the social status of the families in which these patients lived as children.

The information about parental behavior and social status came from childhood records collected 30 years before the patient was seen and diagnosed, and, therefore, does not suffer from retrospective distortion. While there are intrinsic limitations to the quality of the information obtained about the parents as well as to the certainty of the current diagnosis of the former patients, it is worthwhile to examine our results to learn what kinds of parental behavior appear to predict the development of sociopathic personality.

Almost all patients subsequently so diagnosed experienced parental behavior in childhood that could be interpreted as rejection. However, only four kinds of such behavior—failure to supervise, public repudiation, desertion, and non-support—significantly distinguished the childhoods of those later diagnosed sociopathic personality from those who developed other psychiatric illnesses. Only these four types of rejection could therefore be considered predisposing to this particular disease. Of these four types, three are *failures* to act; only one, public repudiation, is a positive hostile act toward the child. Since the parent who publicly repudiated his child often did so

because of the child's extreme incorrigibility, the question arises whether public repudiation is a response to rather than a determinant of the child's antisocial behavior. To determine this point comparisons between diagnostic groups were limited to those who already showed severe antisocial behavior in childhood, and who might therefore be expected to elicit parental retaliation. The rate of parental repudiation among those who later were diagnosed sociopathic personality is not significantly higher than that for those with other diagnoses or no disease. It seems probable that the relationship found between parental repudiation and sociopathic personality is largely a consequence of the higher rate of provocative behavior among children ultimately diagnosed sociopathic personality. This study, therefore, provides no clear evidence that hostile acts directed against a child are positively related to the development of sociopathic personality. The more important parental behavior appears to be neglect and abandonment.

Stern, cold, withdrawn behavior on the part of the parents appears to be insignificantly or negatively related to sociopathic personality. Even when comparisons are limited to those with severe antisocial behavior in childhood, coldness on the father's part is still found to be negatively associated.

The kinds of parental behavior found to be associated with the development of sociopathic personality are consistent with the finding that the patients often had fathers who appeared to have been sociopathic or alcoholic. For the patients themselves, we found poor work history, poor marital history, and being a financial burden on society to be leading symptoms of sociopathic personality. If the sociopathic fathers of the patients had the same symptoms, their poor work history and financial dependence would inevitably mean non-support of their children. Their poor marital history would be associated with the high rate of divorce and desertion which we found. Women whose husbands desert and fail to support often go to work to provide income, leaving the children unsupervised.

The tendency to transmit sociopathic behavior from father to son raises the question

of whether the primary mechanism of transmission is learned behavior, a genetic factor, a response to the child's experience of rejection, or still another factor. This study was not designed to test a genetic hypothesis. We do, however, have information about the extent to which fathers and sons shared the same household, a necessary condition if sociopathic behavior is a set of responses learned through imitation of the father's antisocial methods of coping with his problems.

We compared two groups of boys with sociopathic or alcoholic fathers: those who had never lived in the same household with the father since infancy (before age 2) and those who had lived at least temporarily with the father. The rates of sociopathic personality in the sons were not found to differ significantly (Table 9). In fact, the sons who did *not* live with their sociopathic fathers had an even higher rate than those who did. We investigated the possibility that the rate of sociopathic disorder in the mother remaining at home explained the high rate when the father was absent, but it did not. These findings are, of course, consistent with the observation that desertion by the father is positively correlated with the development of sociopathic personality.

These findings do not necessarily suggest a genetic factor in the transmission of sociopathic personality disorder. There are many other possible explanations: 1. The child may have learned antisocial patterns from the father even as an infant; 2. He may have modeled himself on the absent father on the basis of relatives' descriptions; 3. The boys without fathers are more economically deprived and receive less supervision because their mothers work; 4. Mothers who choose to marry sociopathic men may also rear their sons to be sociopaths, even if they themselves do not show such symptoms; 5. The absence of the father may be interpreted by the child as rejection, which in turn may be predisposing to the development of the disease. But our findings *do* indicate that the child need not live with the sociopathic father to develop similar behavior patterns.

The pattern of findings of desertion, lack of supervision, non-support, and parental divorce as determinants of the development

TABLE 9
Effect Of Presence Or Absence Of
Sociopathic And Alcoholic Fathers

Patient's Diagnosis	SOCIOPATHIC OR ALCOHOLIC FATHERS			
	ABSENT SINCE BEFORE PATIENT WAS 2		PRESENT AT LEAST TEMPORARILY	
Sociopathic Personality	59%		34%	
Excluding sociopathic or alcoholic mothers		55%		33%
Other Diseases	35		52	
Excluding sociopathic or alcoholic mothers		36		54
No Disease	6		14	
Excluding sociopathic or alcoholic mothers		9		13
	100% (N=17)	100% (N=11)	100% (N=96)	100% (N=83)

X = not significant.

of sociopathic personality are consistent with the concept of the sociopathic parent as the chief predisposing factor. Experience of parental rejection, if more narrowly defined as neglect rather than positive hostile acts, is one possible mechanism through which the transmission of the disease from father to son may take place.

CONCLUSIONS

1. A 30-year follow-up study of 524 patients originally seen in a child guidance clinic yielded a high proportion (20%) of former patients who met criteria for a diagnosis of sociopathic personality as adults, as compared with a control group (2%). The 84 male patients with this diagnosis are compared, with respect to their parents' behavior problems, to male patients with other psychiatric diseases (166) and to male patients diagnosed as having no disease (75).

2. Most patients who met the criteria for a diagnosis of sociopathic personality at any time during their adult lives still showed marked antisocial behavior up to time of follow-up (ages 31-54). For those in whom there was a marked diminution of symptoms, this most often occurred between the ages of 30-35. There was no age, however,

beyond which one did not improve.

3. Various forms of parental behavior that could be considered rejection were investigated. No form of rejection specifically directed at the child was found to be associated with the development of sociopathic personality, if the child's provocative behavior is taken into account. Desertion, failure to supervise, and non-support were found to be positively associated with the disease. Father's coldness was found to be negatively associated.

4. Parents with a history of divorce were more likely to have sociopathic children than parents without divorce.

5. A picture of generalized antisocial behavior in the father, suggesting a diagnosis of sociopathic personality or alcoholism, was found to be related to sociopathic personality in the child. Whether or not children had actually lived with such fathers did not significantly affect their eventual rate of sociopathic personality.

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DISCUSSION

PAUL E. HUSTON, M.D. (Iowa City, Iowa).—This paper by Drs. O'Neal, Robins, King, and Schaefer continues the same general pattern as previous studies from the St. Louis group. These involved long time follow-up examinations of persons seen many years ago in a child guidance clinic when very complete records were made. It is only from such work that we shall get basic information concerning the course of psychiatric illness. It is worth remembering that in this way Kraepelin, who followed some of his cases for over 30 years, established the diagnoses of dementia praecox and manic-depressive psychosis. Though the term dementia praecox was subsequently replaced by the term "schizophrenia," the work of Kraepelin was so basic that these entities remain in our nomenclature.

From the present study a remarkable result is that 98% of the persons diagnosed sociopathic personality showed antisocial behavior 30-odd years earlier. The patterns of disordered behavior appearing in childhood persist with considerable tenacity. This finding is similar to previous studies of Dr. O'Neal on neurotic children showing a higher incidence of neurosis later in life than a control group. Again, in this new report, three-quarters of those diagnosed sociopathic personalities as adults had been seen as children in the juvenile court and an additional 14% had other police difficulties. These are sobering thoughts, from the standpoint of treatment.

The authors go behind the diagnosis of a sociopathic personality and report more specifically on the relationship between parental rejection and the development of sociopathic personality. This raises some questions: the first concerns the diagnosis of sociopathic personality, a term which does not appear in our official diagnostic book. We do have the general group of "sociopathic personality disturbance" under which appear "antisocial reaction," "dyssocial reaction," "sexual deviation," and "drug addiction." The authors give us their

criteria of sociopathic personality disturbances. These criteria and the diagnostic book indicate the wide range of traits and behavior in sociopathic disturbances, and there is too much in this broad category.

The authors begin their paper by using the expression "sociopathic personality disturbance" which is a very broad group. Some of these individuals have been in trouble with the police, and most of those referred to the clinic were involved with the police.

As one reads on in the paper, "sociopathic personality" appears more often and seems to acquire the status of an entity. As I see it—there is no such entity. Each type of sociopathic personality disturbance has often many factors involved in a diagnosis. Take, for example, the case of homosexuality. Who is homosexual? Does this apply to all age levels, to only certain settings? Does it also include fantasies directed toward members of the same sex? How frequent must the sexual acts or fantasies be in order to apply the label?

I also find it hard, therefore, to believe that at the present stage of knowledge we can take a single item like "parental rejection," a term the authors admit is hard to define, and relate it in any other than a very general way to the development of sociopathic personality disturbance. One is reminded of the parent who says while punishing his child, "This hurts me more than it does you," which is very different from impulsive, cruel punishment, carried out in a fit of anger. The authors, in fact, did not find that rejection was a primary causal factor in sociopathy but rather that it was the total experience of having a markedly antisocial parent which seemed to be correlated with sociopathic disturbance later in life. This is so, since parental behavior which could be interpreted as rejection and which was positively correlated with "sociopathy," involving neglect, desertion, failure to support and to supervise, was no more highly correlated with the development of sociopathic disturbance than other items which suggested parental antisocial behavior but not rejection. It seems to me that rejection or any other item selected for study will have to be understood in terms of its basic meaning to both the child and his parents and in such a way that several observers can agree. Until we can say that a given act involves rejection dynamically, is definitely definable as such, and can be pointed to specifically, we cannot push our understanding of these matters very far.

Since the writers' findings suggest that the father's sociopathic traits are more decisive than the mother's, about as far as we can go

is to repeat the old proverb, "like father, like son."

I gave this paper to a member of our department, Dr. Richard Jenkins, who has spent a good deal of his life studying problems of delinquency. Dr. Jenkins kindly added some additional comments to this discussion.

The bulk of the authors' cases present the contrasting pictures of dyssocial reaction and antisocial reaction. Experience in a variety of child guidance clinics has shown that these two groups are in general quite distinguishable, either from clinical examination or from clinical records, and that typically they have different antecedents. Delinquency is largely separable into adaptive and maladaptive forms. The former we call dyssocial reaction, and it includes the delinquent who is part of a delinquent sub-culture. Such delinquency is goal-oriented and involves adaptation and learning by experience. It contrasts with stereotyped, maladaptive delinquency which we call antisocial reaction, the result of frustration and increased by punishment.

The distinction of the socialized delinquent or dyssocial reaction and the unsocialized aggressive delinquent or antisocial reaction was found feasible in a study of 500 Michigan child guidance institute cases by Lester Hewitt. In Ackerson's studies of 5,000 cases from the Institute for Juvenile Research each of these types stands out as a cluster of inter-correlated traits, both with boys and girls. The classification was selected and used without difficulty by Dr. Hilda Lewis in her follow-up of 500 cases from the Merham Reception Center, reported in her book, *Deprived Children*. The differentiation of these two groups in terms of motivation and frustration was independently arrived at by Stane Saksida in Yugoslavia and by Keiichi Mizushima who differentiated these groups among Japanese delinquents.

Of course, the grouping together of these two quite different clinical pictures with quite different characteristic family background factors obscures the specificity of the background factors the authors are seeking to study. The frustration reaction is specifically related to parental rejection. The adaptive delinquent

reaction is specifically related to association with other delinquents with a lack of parental supervision. It is only the failure of the authors to make this distinction which could have resulted in their suggestion that lack of supervision, as a correlate of parental rejection, could account for the effect of the latter. The fact is that these two different factors contribute to qualitatively different kinds of delinquent reactions. I hope that they will accept this as a challenge and re-examine their data to confirm or to refute my statement.

REPLY BY DR. O'NEAL.—Dr. Richard Jenkins has called to our attention the fact that the criteria by which the diagnosis of sociopathic personality was made in this paper more nearly fit the more limited term "antisocial reaction" as it is defined in the *Diagnostic and Statistical Manual* than the broader term "sociopathic personality disturbance" as used in the *Manual*. We agree that by specifically excluding persons whose antisocial behavior is confined to only one or a few aspects of their lives (as we pointed out above in the section entitled "Diagnostic Criteria"), we have excluded pure cases of alcoholism and drug addiction, the sexual deviate and the professional criminal (who is presumably included in the "dyssocial reaction" category). This then leaves only the term "antisocial reaction" as the sub-heading under sociopathic personality disturbance which is related to our use of the term. It should also be pointed out, however, that the description of the "antisocial reaction" in the *Manual* makes a statement which our data permit us neither to confirm nor deny: "This term refers to chronically antisocial individuals who are always in trouble, profiting neither from experiences nor punishment, and maintaining no real loyalties to any person, group, or code." While the subjects for whom we made the diagnosis sociopathic personality disturbance were certainly chronically antisocial individuals, a significant number of them in their later years gave up or severely reduced the range of their antisocial behavior. Whether this was because at long last they did profit from experience or punishment or developed loyalties to their wives and families, we cannot say.

EVALUATION OF EEG PATTERNS OF NEWBORN BABIES¹

W. T. LIBERSON, M.D., Ph.D.,² AND WILLIAM H. FRAZIER, M.D.^{3, 4}

It is common concern in psychiatry to consider the influence of the psychological factors which take place in infancy on the genesis of mental diseases. There is a growing awareness of the possibility that early latent physiological disturbances may also contribute to the mental disorders in adults. Electroencephalographic patterns are among the different physiological factors which should be evaluated in newborn babies for the purpose of future correlations.

There has been a number of studies of the EEG's of the neonates and of the effect of the obstetrical anesthesia and other obstetrical factors on their brain wave pattern. The analysis of all these investigations is beyond the scope of this paper. The present investigation was prompted by a series of publications in which Hughes, *et al.* (1-5), described in detail the characteristics of the EEG's of newborn babies. They specifically studied the effects of analgesia on the EEG's of neonates and concluded that the

studied these two variables, the amount of sedation and the differential EEG patterns, independently.

In our study we evaluated separately the cases of analgesia with or without complications of labor. With such an analysis, the differences between the EEG effects of mild and heavy analgesia were not found to be consistent. The governing factor, however, appears to be the actual obstetrical complications. Indeed, our early study suggested that the major factor affecting the brain wave pattern is the birth trauma. A detailed analysis of different EEG patterns, those which have been, and those which have not been associated with obstetrical trauma, offers a possibility to single out EEG signs of an impaired physiological state of neonates for future psychosomatic correlations.

Subjects. The consecutive births of 136 babies in the obstetrical service of the hospital were eligible for the study. However,

TABLE 1

Caesarean section	11
Spinal anesthesia and mild analgesia (no complications)	7
Long Anesthesia (no complications)	7
Long Anesthesia with evidence of fetal suffering	56
Analgesia (mild, moderate, and heavy with no complications)	26
Analgesia and anesthesia (minor complications)	9
Long anesthesia (no specific complications)	
Evidence of pronounced complications (breech, long delay in breathing, evidence of fetal suffering, total version, high or mid forceps)	20
Total	136

changes of EEG's are related to the amount of sedation. However, they also noted a correlation of the complications of delivery with the amount of sedation. They have not

for obvious reasons a true cross section of the neonates in the general population could not be studied in a private hospital. Therefore, in reality a greater percentage of abnormal births and caesarean sections were included in this study than would have been if the sample were without any selection.

Table 1 shows the distribution of the different categories of births :

Sedation and Anesthesia. For analgesia, demerol, seconal, scopolamine, and sodium amytal were used, supplemented in many

¹ Read at the 117th annual meeting of The American Psychiatric Association, Chicago, Ill., May 8-12, 1961.

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⁴ The authors wish to express their appreciation to William K. Bannister, M.D., Frank Woods, M.D., and Miriam Clark Whalen, EEG Technician, for their assistance.

cases by a very brief anesthesia (cyclopropane). The degree of analgesia was rated by anesthetists in three different categories (mild, moderate, and heavy). As no consistent difference was found between the EEG patterns observed with these different degrees of analgesia, the criteria of this classification will not be given in detail. On the other hand, when the administration of the anesthetic was prolonged, the neonates were classified as having "long anesthesia."

Technique. EEG's were taken with tripod electrodes and recorded on an Offner 8-channel machine within the first hour following birth in most of the cases. In some cases the EEG was taken, one, two, or three hours following birth and in a certain percentage of cases, the tracings were repeated two or three times.

Data Analysis. The data concerning the obstetrical anesthesia and complications were compiled independently from the reading of the EEG's and, *vice versa*, the interpretation of the EEG's was done prior to the knowledge of the obstetrical factors.

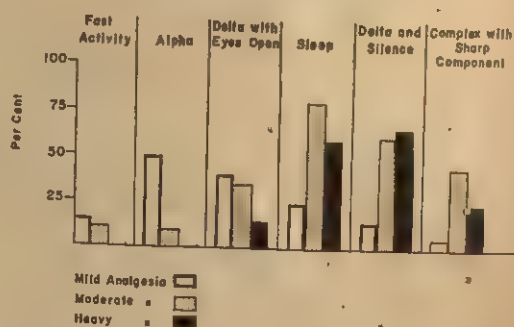
RESULTS

It is a common misconception that the EEG's of neonates show only a poorly organized activity with low voltage and delta components. In fact, our observations showed that several organized patterns could be found: 1. Organized theta activity (usually of 6-7 cycles per second); 2. Activity in the alpha range (usually of low amplitude) including some 9 per second rhythm; 3. Fast rhythm; 4. Delta activity with eyes opened; 5. Sleep pattern; 6. Continuous alternation of delta rhythm and periods of "silence"; 7. Complex waves with sharp components. All these patterns were graded from 1 to 4 according to the

degree of their pre-eminence in the record. These patterns were discussed in more detail elsewhere. The analysis of these data as a function of anesthesia and other obstetrical events was done in several stages:

1. On an initial group of 37 neonates (sections were not included), no consistent difference was found for most of the analyzed EEG patterns with the exception of (a) alpha activity (Fig. 1) (which decreased with an increase of analgesia); (b) pronounced alternation of delta waves and silences (Fig. 2) (which increased with the amount of analgesia); and (c) complex waves with sharp components (Fig. 3) (which were very rare in neonates with mild analgesia). Some decrease of fast activity was observed with increasing analgesia; this appeared paradoxical, and has not been analyzed in this study. (See Table 2; Fig. 4). However, "delta

FIGURE 4
"Natural" Birth. Analgesia With and Without Complications



with eyes open" seems to show a correlation with the degree of analgesia in this preliminary group.

2. Inasmuch as Table 1 covered cases with and without complications, all these factors with the exception of fast activity were reinvestigated in a larger popula-

TABLE 2
Initial Group of 37 Neonates With or Without Complications and Different Degrees of Analgesia (Sections not Included)

	NUMBER OF CASES	FAST ACTIVITY	NUMBER OF CASES IN PERCENT				COMPLEX WITH SHARP COMPONENT
			ALPHA	DELTA WITH EYES OPEN	SLEEP	DELTA AND SILENCE	
Mild analgesia	13	15	54	39			
Moderate analgesia	18	11	11	33	23	15	7
Heavy analgesia	6	0	0	15	83	62	44
					66	66	15

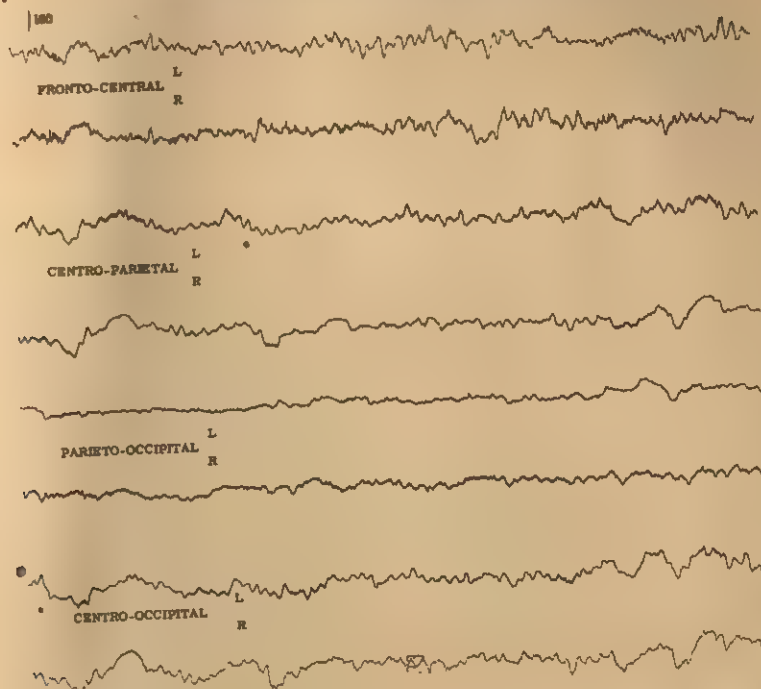
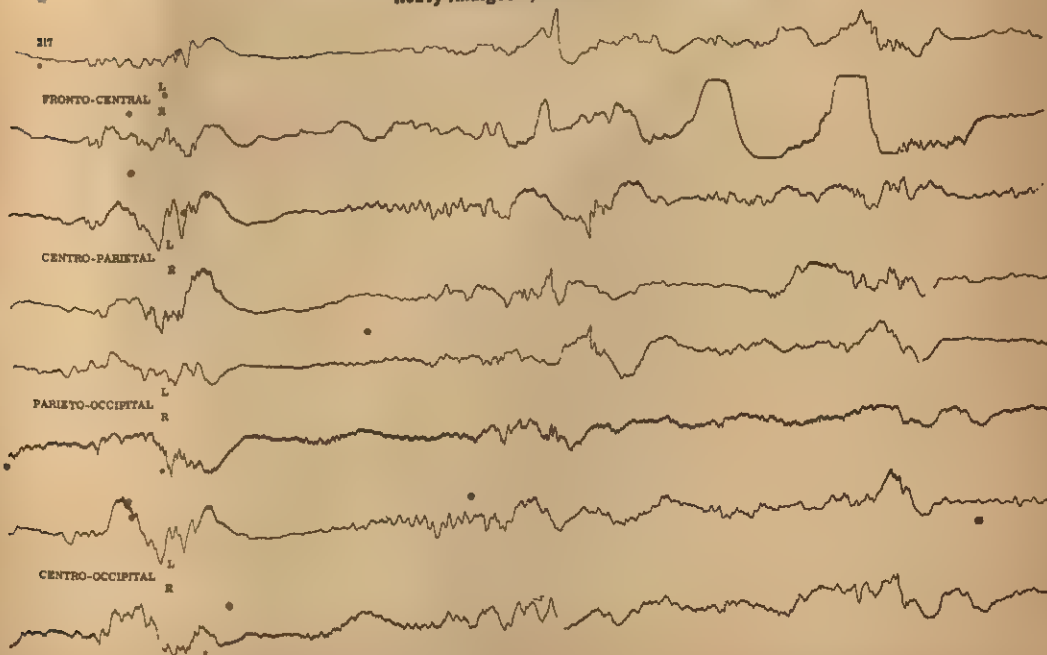
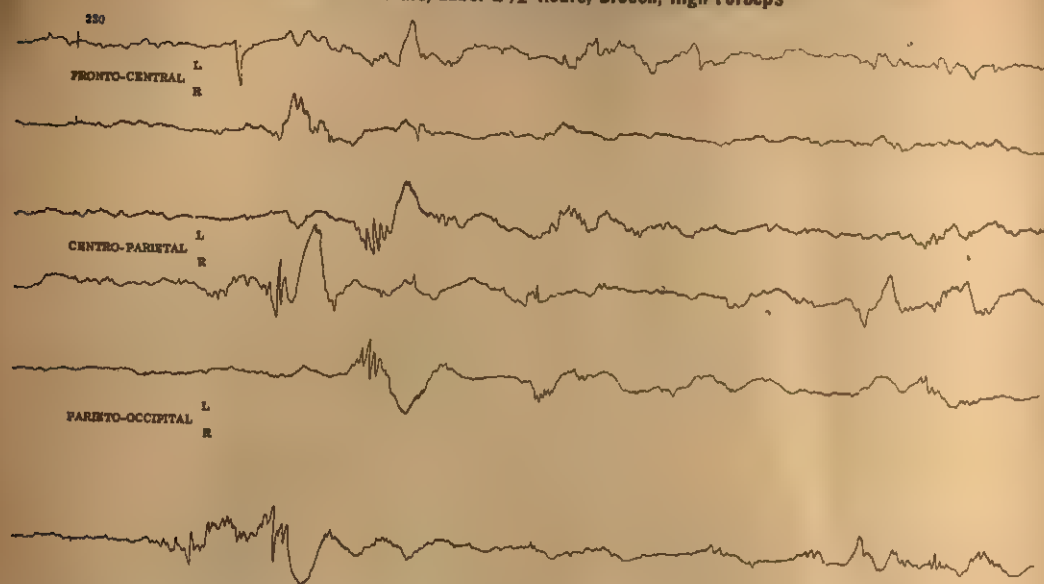
FIGURE 1**Example of 9 per Second Activity. Mild Analgesia, No Complications.****Vertical Line : 50 Microvolts. Horizontal Line : 1 Second****(Same for all Figures)****FIGURE 2****Example of Alternation of Delta Activity and "Silences."****Heavy Analgesia, Labor 3 Hours**

FIGURE 3

Example of Complex Waves with Sharp Components. Mild Analgesia, Brief Delay in Breathing, Asthma 48 Hours, Labor 2½ Hours, Breech, High Forceps



tion of neonates with the mothers receiving only analgesia and having no complications. Under such conditions, few significant differences were found in the EEG patterns.

As would be expected, some increase in sleep pattern with analgesia was recorded (See Table 3).

3. In the next step of our analysis, the

TABLE 3
Cases with Analgesia and No Complications

	NUMBER OF CASES	ALPHA	NUMBER OF CASES IN PERCENT			
			DELTA WITH EYES OPEN	SLEEP	DELTA AND SILENCE	COMPLEX WITH SHARP COMPONENT
Mild analgesia	22	50	60	36	14	14
Moderate analgesia	24	33	43	46	33	16
Heavy analgesia	10	50	70	60	10	20

TABLE 4
Analgesia Cases With or Without Complications

	NUMBER OF CASES	ALPHA	NUMBER OF CASES IN PERCENT			
			DELTA WITH EYES OPEN	SLEEP	DELTA AND SILENCE	COMPLEX WITH SHARP COMPONENT
Mild and moderate analgesia (no complications)	46	41	50	41	22	15
Heavy analgesia (no complications)	10	50	70	60	10	20
Mild and moderate analgesia (with complications)	30	33	40	60	33	33
Heavy analgesia (with complications)	10	40	20	50	20	40

cases with mild and moderate analgesia were combined and were considered, separately, for those neonates who were born with and those born without complications (see Table 4). Analysis of this table shows more apparent differences between neonates born with and those born without complications, respectively, than among those having different degrees of analgesia. Thus, the number of complex waves with sharp components doubled when the complications were present. The alpha activity somewhat decreased. The amount of sleep did not show any definite decrease and the alternation of delta and silence showed a trend toward an increase in neonates with complications.

4. In view of these preliminary findings, the complete population was analyzed for three patterns only: 1. The presence of alpha activity (9 per second), 2. The presence of pronounced alternation of delta activity and silence, and 3. The presence of complex waves with sharp components. In addition to the previous groups considered, we analyzed the data in neonates born by section separately, with or without prolonged anesthesia; in the neonates born with long anesthesia in addition to the analgesia; and finally, in neonates who had severe obstetrical complications. The results of the analysis are represented in Table 5 and Figs. 5 and 6. The table shows that neonates with section and no complications have a higher percentage of alpha activity than the rest of the population. They show

FIGURE 5
Babies Born by Section

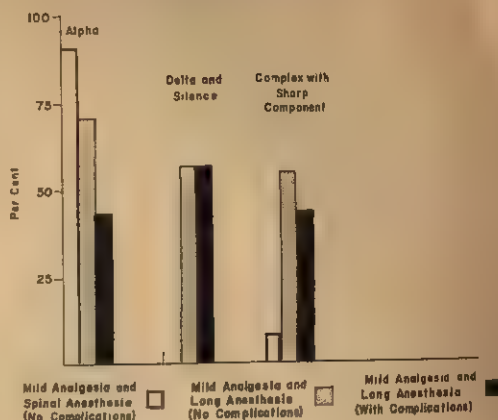
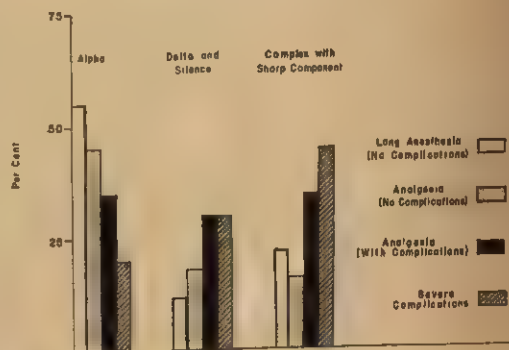


FIGURE 6
Babies Born by "Natural" Birth



no delta and silence pattern. However, the percentage of neonates born by section and having long anesthesia have a relatively

TABLE 5
Total Population Included Sections With or Without Complications

Section :	NUMBER OF CASES	NUMBER OF CASES IN PERCENT		
		ALPHA	DELTA AND SILENCE	COMPLEX WITH SHARP COMPONENT
Mild analgesia and spinal anesthesia (no complications)	11	91	0	9
Mild analgesia and long anesthesia (no complications)	7	71	57	57
Mild analgesia and long anesthesia (with complications)	7	43	57	43
Long anesthesia (no complications)	9	55	11	22
Analgesia (no complications)	56	45	18	16
Analgesia (with complications)	40	35	30	35
Severe complications	20	20	30	45

high percentage of complex waves with sharp components.

On the other hand, neonates born by "natural" birth with severe complications have the lowest percentage of alpha activity and also a relatively high percentage of complex waves with sharp components. In general, the neonates born with complications tend to have a lower proportion of alpha activity and a high proportion of alternation of delta and silence pattern and of complex waves with sharp components. Neonates with long anesthesia (no section) show relatively low percentages of delta and silence pattern and complex waves with sharp components.

Chi squares were calculated with the following results: (Tables 6 and 7).

DISCUSSION

The major finding of this study, if confirmed in the future, is that neonates born by caesarean section without complications seem to have a more "ideal" EEG than those born by "natural" birth, also without complications. In other words, it seems that we all might bear some consequences insofar as our original brain wave pattern is concerned as a result of the passage through the "birth" canal. It appears indeed in the light of this investigation, that a low percentage of records with alpha-like activity is a "natural" complication of a non-caesarean birth and that the alpha-like activity decreases still more in the presence of obstetrical complications. No significant difference was found between babies with

TABLE 6 *

	ALPHA	DELTA WITH EYES OPEN	SLEEP	DELTA AND SILENCE	COMPLEX WITH SHARP COMPONENT
Levels of significance for chi squares between Heavy analgesia (no complications) and Heavy analgesia (with complications)	.50	.05	.50	.50	.30

* For this table the data represented in table 4 were partially analyzed.

TABLE 7 *

	ALPHA (Level of significance)	DELTA AND SILENCE	COMPLEX WITH SHARP COMPONENT
Chi square for:			
A, B and C			
A and B	.01	.10	.02
A and C	.01	.20	.50
A and C	.01	.05	.20
B and C	.05	.50	.01

* For this table the data represented on table 5 were analyzed with the following notation: A—Section, Mild analgesia and spinal anesthesia (no complications); B—Analgesia (no complications); C—Severe complications.

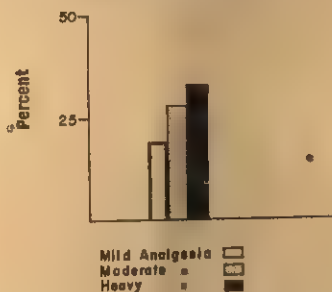
One can see that the data related to the analysis of the alpha activity are fully significant. The data related to the analysis of the Delta and silence pattern are significant only insofar as the comparison of the neonates born by section and those born with severe complications are concerned (.05 level). Finally, the data related to the analysis of the sharp wave patterns are fully significant only for the comparison of neonates born with no complications with those born with severe complications (Table 7).

mild analgesia and heavy analgesia; in the presence of severe complications the incidence of sharp wave patterns significantly increases. The non-caesarean birth involving the passage of the head through the pelvic canal affects the EEG, but the maximum changes are found in children born with obstetrical difficulties.

Furthermore, the analysis of our data showed that the incidence of delay in breathing and the signs of fetal distress were observed in 19% of the cases with

mild, 28% with moderate, and 33% with heavy analgesia (Fig. 7). This stresses the

FIGURE 7
Incidence of Delay in Breathing and Signs of Fetal Distress



importance of a separate analysis of the effect of analgesia in births with, and births without complications. In babies born by section, prolonged anesthesia brings the percentage of alpha-like frequencies down from 91% to 71%; it increases the percentage of alternation of delta-silence from 0% to 57%, and the incidence of complex sharp waves from 8% to 55%. This also could be due to the result of minor surgical complications which prompted prolonging anesthesia rather than to the result of the long anesthesia itself. On the other hand, the differences found in cases of prolonged anesthesia in sections, contrasting with the findings during the "natural" birth, may be due to the fact that in the non-caesarean birth, the anesthesia is not as prolonged as in the cases with section.

CONCLUSION

1. One hundred and thirty-six neonates were given EEG examinations during the first few hours following birth. Babies with caesarean section, with no prolonged anesthesia and no complications, showed the most "ideal" EEG's, characterized by a rela-

tively high percentage of records within the alpha frequency range, very low incidence of spikes and no delta-silence pattern despite of the presence of analgesia.

2. Neonates born with non-caesarean birth seem to have as a group a mark of the passage through the pelvic canal as they show a considerably lesser percentage of records within the alpha frequency range. No difference was found in these patterns between mild analgesia, moderate analgesia, heavy analgesia and long anesthesia, provided that cases with or without clinical complications are analyzed separately. However, the incidence of delay of breathing and fetal distress was higher in neonates with heavy analgesia than in those with moderate and particularly in those with mild analgesia.

3. Neonates with obstetrical complications, whether born by section or particularly by non-caesarean birth, show a considerably decreased incidence of records with alpha-like activity. The presence of delta-silence pattern was observed in about one-third of the records and the incidence of spikes in about one-half of the records of babies born during markedly complicated deliveries.

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CLINICAL NOTES

(The Clinical Notes report the findings of the authors and do not necessarily represent the opinions of the Journal.)

THE RELATIONSHIP OF CERTAIN ORAL SIGNS IN NEUROPSYCHIATRIC PATIENTS TO DOSAGE OF ATARACTIC DRUGS

S. H. BLEICHER,¹ A. I. ISHLER, M. B. PAUL, J. K. KEW,² AND H. C. RICKARD.³

The following paper was a combined effort of the dental and psychology services in a 964-bed neuropsychiatric hospital of the Veterans Administration. The dental staff had observed, during regular examination and treatment, that a percentage of the patients exhibited certain oral signs which were not unique in themselves but the presence of which was difficult to understand. These signs were: a moderate to severe dryness (xerostomia) of the tissues comprising the oral cavity and nasopharynx, a reddened and irritated appearance of the oral mucosa with some complaint of slight burning and the so-called black hairy tongue. From behavioral observations of the patients exhibiting these signs, the hypothesis was developed by the chief, dental service, and his staff that these signs might be related to the ataractic drugs that the patients were receiving.

A review of the literature concerning the side-effects of the ataractic drugs indicated that very little has been written concerning oral symptomatology. Paganini(1) claims that a group of patients with hairy tongues and dryness of the mouth were on large doses of chlorpromazine from a period of 2 months to over a year and that these symptoms disappeared after discontinuation of the drug. Gold(2), in discussing mepazine, a newer drug of the phenothiazine group of ataractics, stated, "As with all phenothiazine derivatives, occasional side-effects are mouth dryness, blurring of vision and constipation." Mahra(3) reports that the phenothiazine derivatives, promethazine (Phenergen), chlorpromazine (Thorazine), prochlorperazine (Compazine), mepazine

(Pactal) have demonstrated in varying degrees an atropine-like activity, *i.e.*, the blockage of the effector organs of the post-ganglionic nerve, demonstrable in the pupils, intestines, and the salivary glands, which in the latter produces the xerostomia. O'Hara(4) in a case review mentions dryness of the mouth with dosages of prochlorperazine. Cohen(5) is of the opinion that the undesirable side-effects of chlorpromazine are divisible into major and minor complications; most are minor, and of clinical significance only insofar as they may induce varying degrees of subjective distress. Among the minor side-effects were nasal congestion and dryness of the mouth. Denber(6), in a study of 1300 patients who were treated with chlorpromazine, mentions fever, constipation, diarrhea, and other gastrointestinal symptoms, which, in the dental staff's opinion, could reflect in the oral cavity some of the signs observed. Dobkin(7), in the summary of his article, mentions that chlorpromazine has numerous valuable pharmacological attributes for pre-medication for clinical anesthesia, such as the reduction of the salivary and gastric secretions. Sainz(8) also refers to the atropinemic effect of chlorpromazine characterized by dryness of the mouth and nasopharynx. Brachfeld(9), in a case report, mentions a severe stomatitis with pain and difficulty in swallowing and a severe burning sensation when the patient was given meproamate for restlessness. The purpose of this study was to test the relationship of oral signs to dosage of ataractic drugs using a controlled, statistical procedure.

The dental service examined the patients and recorded the oral signs while the psychology service recorded the drug dosage

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³ University of Alabama.

and performed a statistical analysis of the data. A form was devised by the dental service for recording the clinical findings. At the time of the initial or subsequent examination, either the presence or absence of oral signs were recorded on the form by members of the dental service. As these data accumulated, members of the psychology service checked the patients' clinical records for the following information: 1. Ataractic drugs received; 2. Dosage; 3. Duration of current dosage. (Records were checked back for a 6-month period.) Black hairy tongue was the only oral sign recorded with a high enough frequency by the dental service. Consequently, only this sign could be used in the statistical analysis of the data. Nineteen patients with black hairy tongue were obtained in a first sample; 23 patients without the sign were selected at random to form a control group. Similarly, a second sample of 12 patients with the sign and 23 patients without the sign were selected. The chi square statistical analysis⁽¹⁰⁾ was used to ascertain whether or not a significant relationship would obtain for the following comparisons: 1. Presence versus absence of the sign; 2. Amount of the dosage (judged high or low by psychiatric evaluation); 3. Amount of time treated with the drug; and 4. Type of drug taken.

*The results can be succinctly summarized. No significant relationship existed between presence or absence of the sign and drug dosages on any of the comparisons listed above; particularly striking was the fact that approximately 42% of the patients who showed the sign were not on ataractics of any sort. Our findings do not support the conclusion that a relationship exists between the oral signs

described and ataractic drugs, a hypothesis advanced by the present writers and other investigators^(1, 3). It should be noted again that only one oral sign, black hairy tongue, occurred frequently enough to permit statistical analysis in the population sampled. However, since the sign occurred in many patients who were not on ataractics of any sort, it seems obvious that drugs are not a necessary condition.

SUMMARY

Thirty-one NP patients exhibiting the oral sign of black hairy tongue were identified by the dental service; 46 control subjects were selected at random from patients examined at that time who did not exhibit the sign. Records of ataractic drug treatment for the 6-month period prior to the examination were obtained for both groups. No significant relationship emerged between drug dosage and presence of the sign of any criteria examined.

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A COMPARISON OF URINE PHENOTHIAZINE TEST RESULTS WITH PRESCRIBED MEDICATION DOSAGE¹

FLOYD K. GARETZ, M.D.²

The increased use of phenothiazine derivatives in medicine, generally, and in psy-

chiatry, particularly, has given rise to a variety of new concerns. The need to identify the agent in a toxic overdose and the importance of knowing with confidence that a particular prescribed drug is actually being taken by a patient are two factors which have stimulated the development of rapid

¹ The author expresses his gratitude to the staff of the VA Mental Hygiene Clinic, St. Paul, Minn., for their help in this research.

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urine tests for phenothiazines (1).

Currently available tests are easy to perform, yield immediate results, are roughly quantitative and have the special advantage that "virtually no false negatives have been encountered" (1).

Studies of hospital populations have shown that from 5% to 15% of patients successfully "cheeked" their drugs (2-4). In outpatient clinics, where supervision of patients' actual medication intake is virtually absent, the clinician and researcher have relied mostly on patients' reports about how much medicine was actually taken.

In order to investigate the reliability of patient reports a brief survey was conducted at the Veterans Administration Mental Hygiene Clinic, St. Paul, Minn., for one month. All patients meeting the following criteria were sent to the laboratory for the appropriate urine phenothiazine test: 1. Patients were being given either chlorpromazine (Thorazine), promazine (Sparine), thioridazine (Mellaril), or imipramine (Tofranil); patients were given only one of these drugs and no other phenothiazines. 2. The patient stated on the day of the test that he had been taking his prescribed medication regularly and that he had taken his prescribed medication on the day of the test.

Thirty-one patients were included in the study; 17 were being given chlorpromazine,

1 received promazine, 10 thioridazine, and 3 imipramine. The following results were obtained: 10 patients (32%) showed negative urine tests although all were receiving medication in dosages large enough to give at least a one plus urine test; 15 (48%) showed urine test results consistent with the prescribed dosage; 5 patients (16%) showed test results indicating at least twice the prescribed dosage. One patient showed test results negative for the prescribed medication but strongly positive for another phenothiazine not prescribed.

These results indicate the need for a more critical attention to the likelihood that patients' reports of the amount of medication that they are actually taking is not reliable in all patients. Clinical appraisals and research data based on patient reports cannot be more reliable than the reports themselves. The value of cross-checking patient reports with urine tests or some other objective method is corroborated by this survey.

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CLINICAL EVALUATION OF A NEW ANTIDEPRESSANT: G-33040¹

F. E. KRISTOF, M.D., A. S. MACPHERSON, M.D., AND M. BROWN, M.Sc.²

G-33040 (Ensidon)³ is a new agent consisting of an imipramine-like iminostilbene nucleus and a perphenazine-like piperazine side chain. On theoretical grounds, therefore, it would be expected to have antidepressant and tranquilizing actions. Previous trials, done largely on mental hospital

patients, have tended to confirm these expectations. In the present study the subjects were depressed patients in a general hospital setting.

Eighteen male veterans ranging in age from 37 to 66 (average 45) years were used in this study. All were diagnosed depressive reaction. Ten patients had manifest anxiety and two others had associated alcoholism.

Patients were subject to the usual ward routine. They received psychotherapy but no other medication except night sedation when required. A battery of laboratory tests

¹ This study was supported in part by a continuing D.V.A. research grant (33-56).

² Psychiatric Investigation Unit, Queen Mary Veterans' Hospital, Montreal, Canada.

³ G-33040 supplied by Geigy Pharmaceuticals, Montreal.

was carried out prior to and weekly during drug administration. A depression rating scale modified from Lehmann (1) was completed by the treating resident prior to medication, after 10-14 days, and again following termination of medication.

This rating scale consists of 13 phenomena considered characteristic of depression. The patient is rated on each of these on a 4-point scale. The possible range of scores is from 13 to 52, the assumption being the higher the score the greater the depression. In addition to the formal rating, behavioral changes and modification of interpersonal relations were noted by the treating physician and the nursing staff.

On the basis of clinical evaluation and the initial rating, 3 patients were considered mildly depressed, 12 moderately depressed, and 3 markedly depressed on admission.

Following the initial rating, drug administration was begun in doses of 150 to 200 mgm. per day over an average period of 25.2 days (range 6 to 63 days).

RESULTS

The treating and research physicians assessed the overall improvement of the patients as follows: much improved—10 patients (56%), somewhat improved—5 (27%), and little or not improved—3 (17%). Fifteen patients—representing 83% of our sample—were assessed as being either much or somewhat improved.

Prior to drug administration the average rating assigned to the patients was 31.9; following drug administration the average rating was 21.1. The decrease is highly significant statistically ($t=8.30$, $df=17$, $p<.001$).

A rough measure of the validity of the rating scale is the extent to which the ratings agree with the clinical judgments. Good agreement was found in both initial assessment and assessment of change following drug administration. The patients evaluated as showing marked, moderate and mild depression had average initial ratings of 37.0, 31.7, and 27.7 respectively. The patients evaluated as much, somewhat, and little or not improved showed average de-

creases in their rated depression of 42.2%, 30.4%, and 9.7% respectively. Since an attempt was made to keep the evaluations and ratings as independent as possible, it is felt that the close agreement found is, at least in part, due to the validity of the rating scale.

In an effort to ascertain specific effects of the drug, the individual items of the rating scale were ranked according to the amount of change noted during drug therapy. Of these "symptoms," G-33040 was most effective in decreasing depressed affect, sad facial expression, impaired appetite, and anxiety; it had least effect on apathy, agitation, irritability, and decreased sexual interest.

SUMMARY AND CONCLUSIONS

G-33040 was administered to 18 depressed patients in a general hospital setting. Of these, 15 (83%) were rated as being somewhat or much improved. It is of note that 2 of the 3 patients who did not respond to this medication were also resistant to other antidepressant therapy. Fourteen of our patients showed a small but noticeable decrease in manifest anxiety following administration of the drug.

At the dosage used, no subjective side-effects were noted. There was no hypotensive effect and no urinary or blood changes. Elevation of total serum bilirubin from 0.80 to 1.20 mgm. % (normal under 0.90) and elevation of prothrombin time from 13 secs. to 14 secs. (control 12 secs.) was noted in one patient. However transaminase and cephalin flocculation remained normal and unchanged.

It would appear that G-33040 is a safe and useful antidepressant in a general hospital setting.

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2. Meeting on G-33040, March 3, 1961 (unpublished).
3. Basic Data Sheet: G-33040. Geigy Pharmaceuticals (unpublished).

COMMENTS

THE CASE OF THE CONFUSED PARENT

Many of today's parents have lost confidence in their role because they are confused. This is the simple, generic problem of ninety percent of the misbehaving children and distraught parents who seek psychiatric counsel. No one seems to know just how the metamorphosis took place, when parents lost their identity, nor why the chemistry of modern social influence developed "the child-centered culture." That it exists is indisputable.

Every product advertised on television carries a toy. Children aren't told to take a bath any more; they are coaxed to play in a foam of "no-ring-around-the-tub" bubbles; this way they are supposed to get clean without noticing the pain involved. Youngsters choose the car, the house, and the vacation which are "best" for them. It is truly Topsy's world, and all one big rock candy mountain.

I doubt that children really like this, and parents like it even less. But, not being parents any more, they need an intermediary to speak for them. So they choose another school, camp, toy, recreational center, or hobby for their child; the children get jaded and tired instead of growing up, and the merry-go-round goes round.

The really disturbing fact, however, is that the harder children seek meanings, reasons, anchors, and goals the faster parents tuck them out of sight—all in the worship of two ill-defined concepts called "security" and "understanding." In their experiential meaning, security and understanding are basic to personality growth. In their common connotation they sometimes become apologies for indecision. Too many parents see their own convictions, values, and goals as diametrically opposed to the welfare of their children. Exhorted by an array of "expert" advice that cannot possibly be integrated into one consistent role, they nevertheless seem to fear that some mystical limitation distorts their own good common sense. Such parents are instantly relieved, and both they and their children infinitely happier, when they re-

ceive "permission" to relate to one another in a direct and honest way.

This is not to imply that alert, psychologically oriented parents should be condemned for their concern about their children's development, nor discouraged from trying to improve themselves and their family way of life. My thesis is, rather, an energetic plea for more self-realization among parents. I would like to see them give their children those influences that are their own unique prerogative, and exorcize the ghost of self-condemnation that has destroyed their confidence.

"Security" has many meanings. For the infant, it requires complete protection, dependable need-satisfaction, and the assurance of continued affection and training. But toward what end are these efforts? Obviously, the child must be protected until he can protect himself; satisfied enough to acquire optimism and a desire to cope with his world; assured of affection so that he can learn to give of himself in return; and trained so that he can become master of his own fate. Without this eventual goal in mind, parental sacrifice creates no more than a permanent "child," a psychological cripple perennially seeking meanings on the prairies of Beatnikville, instead of fulfilling his future in Communityville.

Infantile security must be converted, at a surprisingly early age, into security resting in the child's own abilities, controls, and adaptive functions. Parents who habitually "do everything" for their child become disturbed when he fails to appreciate his "good fortune" and demands yet more. They have created a psychological Frankenstein within the walls of their home, and the earlier they cope with it the better. Such a child has learned no other way; but as he grows older he can no longer satisfy elaborate needs through primitive, infantile demand; then he becomes frustrated, hostile, and unmanageable. This is the child who requires the independence to make his own mistakes, to get hurt, to feel rejected—and thus to learn crucial things about himself and his

environment. The only individual who can master his environment independently is the one who knows his strengths and weaknesses, who defines the limits of his stress tolerance, who has learned that neither disappointment nor internal tension can destroy him, and who has developed a series of Maginot lines against the ill winds of Fate.

Then there is the question of "understanding." I once knew a youngster who was so sensitive and withdrawn that his ability to interact with his environment was almost totally impaired. His parents were intelligent, loving, empathic people, intensely concerned with his welfare. They understood him except in one respect. They gave him no privacy; and he, literally, felt that they could read his mind. He had no inner secret places of himself, no interests or goals which escaped the family's fascinated eyes. How could this child develop internal security, personal courage, or a sense of importance? All he had to give was public property; why should he try to communicate?

Like security, understanding means many things. Which one of us wishes to be too well understood by those we value most? The more primitive angers and hurts common to children are certainly their private affair; although over-inhibition can be destructive, it is necessary that children learn, at some point, to control their antisocial urges at an internal level. In these private victories the pearls of self-esteem are patiently constructed. It is, after all, not what is inside us, but what we do with it that counts in the world of people. Similarly, the cherished hopes and fantasies of childhood, ephemeral as they may be, are intense and priceless. Not only the synthesis of childish fancies and interests, but also the actual secrecy of them creates the sense of self, of separateness and individuality so essential to adult maturity.

• For those who request them, if we must, we can derive a set of "rules for childrearing" to enter in the competition with fads and fables. They have one advantage over most. They lay no claim to fame; they are as old as time. They cannot be "cook-booked," for they represent a way of life. Once incorporated within a family they can-

not be destroyed. Furthermore, it is very difficult to misunderstand them.

1. The parent must be a person himself, with ideas, goals, moods, desires, and aversions all his own. He must live within context of what he is, and consider this so important that he cannot live vicariously through his children. Similarly, if he is consistently himself, he is an adult all the time—and by "adult" I don't mean serious or perfect or any other immature definition of the word. He may laugh, share, play with his children, but he does not confuse the issue by becoming an emotional child when he plays, by competing with the child's other "pals," or by identifying with the child's viewpoint. As a person in his own right, the parent can guide his child; as a "pal" he can only flounder along in a maze of role confusion.

2. The parent establishes authority. There isn't room in this vale of tears for any more uncertainty than necessary. Children are born knowing something about the needs of their bodies, and with innate urges toward personality growth; they are not born knowing how to compromise with society's rules and consider the welfare of other people. Social adjustment is taught, and whether we wish to admit it or not it is taught almost exclusively by parents, who are the most enduring influence in a child's life. No child should be left to guess about fluctuating rules; he should know the limits, and know they will be enforced. As he grows, each new set of limits should be well-defined. He has a right to the security of being able to "tote up the odds" if he plans to transgress against parental authority, and of knowing that his initiative and individuality will be respected within established limits. If he thinks his parents are uncertain about right and wrong, why should he trust them any more than he trusts his best friend or his own momentary impulse? And if he doesn't trust his parents to control him until he can control himself, his security lies shattered at his feet.

3. According to age, children demand varying degrees of privacy in their inner lives and activities. This is true even of babies, who sometimes get rocked (and thus kept awake) almost beyond their capacity to endure. If the limits of authority

are firmly set, no parent should need to intrude unduly upon his child's privacy. Furthermore, the mature parent won't be particularly interested. One deprived of a childhood of his own may feel the temptation, but surely won't repeat the transgression upon *his* child. The problems children solve within themselves build individuality; the hurts they "live through" alone build internal controls; the resolutions they discuss with their friends aid the emancipation process and increase their relationship skills. If they know "who you are" in a person sense, and where you stand in a value sense, they will come to you when the problems seem insurmountable. To ask a child to confide his every thought and experience is to demand a permanent voyeuristic role in his private life.

4. The parent should remember that seeing a child's point of view doesn't require agreeing with it, even if the child pillories him as a vile traitor. For his young child, the parent is the mentor of reality, and responsible for teaching him to live with things as they are. Your 6-year-old's pitched battle in the school room may culminate a lifelong hate for the neighbor kid who

cracked up his new trike—something you know and the teacher doesn't. But the teacher is going to "take it from there," like most of the other people the child will encounter throughout his life. The earlier he learns to consider the context, to control himself, and at very least to explain himself, the more comfortable he will be in his social adjustment.

5. Within the limits of practicality and the requirements of education and home training, let him develop his own interests and use his own time. A fabulous modern round of dancing lessons, sports lessons, camps, parties, and other planned recreational activities leaves most children limp with bewilderment and frustration. Sometimes they want to play in their own rooms and their own back yards. In childhood, and only in childhood, does time stretch endlessly ahead, to be allotted in an elemental way to the things that are most important. Lying on one's back gazing at the sky, doing nothing—absolutely, totally nothing—is one of these priority activities. *There must be a reason why time and childhood go together.*

F. G. E.

APOLOGIA PRO VITA SUA

This that I write depends much on the opinion and authority of others; nor perchance am I mad myself, I only follow in the steps of those that are. Yet I may be a little off; we have all been mad at one time or another; you yourself, I think are touched, and this man, and that man, so I must be, too.

—ROBERT BURTON
(THE ANATOMY OF MELANCHOLY)

NEWS AND NOTES

THE AMERICAN NEUROLOGICAL ASSOCIATION.—The 87th annual meeting of the American Neurological Association will be held at the Claridge Hotel, Atlantic City, New Jersey, June 18-20, 1962 under the Presidency of Dr. James L. O'Leary.

For information write to the Secretary, Dr. Melvin D. Yahr, Neurological Institute, 710 West 168th Street, New York 32, New York.

DR. LEBENSOHN DELIVERS THE ANNUAL KOBER LECTURE.—This annual lecture was delivered at the Georgetown University School of Medicine, Washington, D. C., on March 28, 1962 by Dr. Zigmond M. Lebensohn, Clinical Professor of Psychiatry, Georgetown University School of Medicine. His topic was "American Psychiatry—Retrospect and Prospect."

This was the 38th Kober lecture, and the only other psychiatrist who has given the lecture was Dr. William A. White in 1929.

LAETARE MEDAL AWARDED TO DR. BRACELAND.—Dr. Francis J. Braceland, psychiatrist in chief at the Institute for Living, Hartford, Conn., and former president of The American Psychiatric Association has been awarded the University of Notre Dame's Laetare Medal for 1962.

He is the first psychiatrist to receive the Laetare Medal which has been conferred annually since 1883 on an outstanding American Catholic layman. President Kennedy was the recipient last year. Dr. Braceland is the eighth physician to receive the Laetare Medal, which is generally regarded as the most significant annual award conferred on Catholic laymen in the United States.

Dr. Braceland has been associated with the Institute for Living at Hartford since 1951. During World War II he served as chief of the neuropsychiatry division of the Navy's Bureau of Medicine and Surgery in Washington. He was named a Rear Admiral in the U. S. Navy Medical Corps (Reserve) in 1958.

He had served as dean and professor of

psychiatry at Loyola University School of Medicine, Chicago for several years beginning in 1941.

He has held numerous university and executive posts at home and abroad and holds honorary degrees from several institutions.

AIR TRAVEL FOR PATIENTS.—The American Medical Association and the Aerospace Medical Association have issued the following statement as a guide for physicians.

"Air travel is not harmful to a normal pregnancy, regardless of the duration of the pregnancy. Infants seven days old and older may be transported by air. There are no contraindications to flying based on age alone . . . Old people with well-compensated cardiovascular and respiratory systems tolerate air flight excellently."

Copies of the report are available from the Air Transport Association of America (ATA Public Relations Service, 1000 Connecticut Avenue, N.W., Washington 6, D. C.)

REPORT OF THE AMERICAN BAR FOUNDATION ON THE MENTALLY DISABLED AND THE LAW.—This article is written jointly by a psychiatrist and a lawyer, respectively, Professor Ralph Slovenko and William C. Supper, and published in the *Virginia Law Review*, Vol. 47, No. 8, p. 1366. It is an excellent review of the report of the American Bar Foundation. Its scope encompasses most of the principal topics in forensic psychiatry including commitment laws, consent of the mentally incompetent person for treatment, sterilization, divorce and annulment, management of estates, sexual psychopaths and criminal responsibility.

THREE SUMMER INSTITUTES OFFERED.—Three summer Institutes in Public Health will be offered by University of California Medical Extension and the School of Public Health at UCLA, July 9 through August 3, 1962.

"The Challenge of Mental Retardation to

Public Health," will come first, July 9-20. Institute II, "Preventing and Treating Psycho-Social Disability in Families," on the same dates. The Third Institute, "Social Research Strategies in Health," July 23-August 3.

For further information or application blanks write to: Continuing Education in Medicine and Health Sciences, University of California Extension, Building 5 D, Room 73, Los Angeles 24.

THE AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY, INC.—The Board has scheduled the following examinations: Oct. 13, 15 and 16, 1962—Detroit, Mich.; Dec. 8, 10 and 11, 1962—New York, N. Y.; Mar. 30, April 1 and 2, 1963—New Orleans, La. Attention is called to the change of the date for the New York examination which previously was scheduled for a week later.

BOSTON UNIVERSITY INSTITUTE OF REHABILITATION.—The fifth annual Institute on the Rehabilitation of the Mentally Disturbed will be held at Boston University June 18-29, 1962. A high level of inter-disciplinary faculty will cover the concepts and practices of rehabilitation from the hospital to the community. Three semester hours of credit, graduate or undergraduate, will be granted upon satisfactory completion of the Institute. The cost will be \$95.00 plus living and travel expenses.

THE HELEN D. SARGENT MEMORIAL AWARD.—The committee of the Menninger Foundation administering this Award has named Dr. Wayne H. Holtzman of the University of Texas as recipient of the Award for 1962, especially noting his volume, *Inkblot Perception and Personality: The Holtzman Inkblot Test*. The presentation of the Award will be made in Topeka in September.

THE AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY, INC.—The following are the new Diplomates who successfully completed the examination given by the Board in San Francisco, Calif., March 31, April 2-3, 1962.

PSYCHIATRY

Andrews, Philip, M.D., Los Angeles, Calif.
 Alcerro-Castro, Ramon, M.D., Los Angeles, Calif.
 Ambler, Bruce, M.D., Roseburg, Ore.
 Anderson, Seawright W., M.D., Camarillo, Calif.
 Andrews, Philip, M.D., Los Angeles, Calif.
 Armstrong, Claressa Forbes Meyer, M.D., Chicago, Ill.
 Arthur, Ransom James, M.D., Oakland, Calif.
 Aug, Robert Gaenge, M.D., Fort Sam Houston, Tex.
 Axiotis, Anthony H., M.D., Indianapolis, Ind.
 Bakker, Cornelis B., M.D., Seattle, Wash.
 Barron, David William, M.D., San Diego, Calif.
 Bartholow, George W., M.D., Omaha, Neb.
 Bateman, John Johnson, M.D., Salt Lake City, Utah
 Bisharat, Maurice H., M.D., Rolling Hills, Calif.
 Blachly, Paul H., M.D., Portland, Ore.
 Boudreau, Donald, M.D., Syracuse, N. Y.
 Brunstetter, Richard Worstall, M.D., San Rafael, Calif.
 Bullard, Dexter Means, Jr., M.D., Boston, Mass.
 Burris, Arthur, M.D., Los Angeles, Calif.
 Cabrera, Fernando J., M.D., Hato Rey, Puerto Rico
 Caesar, George Reynolds, M.D., Greenbrae, Calif.
 Cahill, Charles Adams, III, M.D., Milwaukee, Wis.
 Caruso, George Joseph, M.D., Baton Rouge, La.
 Christ, Adolph E., M.D., San Francisco, Calif.
 Clark, Gerald R., M.D., Elwyn, Pa.
 Clark, Lincoln Duftron, M.D., Salt Lake City, Utah
 Cohen, William P., M.D., Oakland, Calif.
 Dillinger, George, M.D., La Jolla, Calif.
 Dixon, Henry Hadley, Jr., M.D., Portland, Ore.
 Draper, Bruce, M.D., Ann Arbor, Mich.
 Ehbrecht, Martha Erdmuth, M.D., Dayton, Ohio
 Eisler, Robert LeRoy, M.D., Butler, Pa.
 Faircloth, James R., M.D., San Francisco, Calif.
 Fisch, Richard, M.D., Palo Alto, Calif.
 Foster, Thomas V., M.D., Syracuse, N. Y.
 Gallant, Donald M., M.D., New Orleans, La.
 Garetz, Floyd Kenneth, M.D., Minneapolis, Minn.
 Garmand, Richard Bryant, M.D., Denver, Colo.
 Glathe, John Parsons, M.D., Menlo Park, Calif.
 Golden, Joshua Sheldon, M.D., Los Angeles, Calif.
 Goldzband, Melvin G., M.D., San Diego, Calif.
 Gormley, Joseph J., M.D., San Francisco, Calif.
 Gould, Miriam, M.D., San Francisco, Calif.
 Grabski, Daniel A., M.D., Buena Park, Calif.
 Hernandez, Manuel, M.D., Boston, Mass.
 Herzon, B. Bernie, M.D., New York, N. Y.
 Herz, Marvin Ira, M.D., New York, N. Y.
 Hollingsworth, Stuart W., M.D., Salem, Ore.
 Hook, Harry N., M.D., Ukiah, Calif.
 Iverson, Richard Stanford, M.D., Ogden, Utah
 Jacobson, Charles Ray, M.D., San Francisco, Calif.
 Jensen, Carl P., M.D., Ukiah, Calif.
 Josephson, Martin M., M.D., New York, N. Y.
 Kaufman, Paul, M.D., Watertown, Mass.
 Kershul, Victor William, M.D., Ypsilanti, Mich.
 Kettner, Melvin G., M.D., San Francisco, Calif.
 Knoepfner, Peter T., M.D., Mount Vernon, N. Y.
 Kunin, Richard Allen, M.D., Minneapolis, Minn.
 Lahar, Elton B., M.D., Richmond, Calif.
 Lamb, H. Richard, M.D., San Mateo, Calif.
 Lauer, John W., M.D., Glencoe, Ill.
 Lazarus, Herbert R., M.D., San Antonio, Tex.
 Lief, Nina R., M.D., New Orleans, La.
 Loft, John Gordon, M.D., Washington, D. C.
 Marx, Louis J., M.D., Ypsilanti, Mich.
 McDermott, Thomas J., M.D., Los Angeles, Calif.
 McLean, Dougald D., M.D., Lincoln, Neb.
 Miller, Miles David, M.D., New York, N. Y.
 Monague, J. E., M.D., Denver, Colo.
 Moore, Harry G., Jr., M.D., Louisville, Ky.
 Ornitz, Edward M., M.D., Los Angeles, Calif.
 Pelz, Morris L., M.D., San Francisco, Calif.
 Peters, Robert H., M.D., New Haven, Conn.
 Phillips, Burt William, M.D., Denver, Colo.
 Pullman, Ernest W., M.D., Los Angeles, Calif.
 Ramer, S., Milton, M.D., Los Angeles, Calif.
 Reinhardt, Roger Franklin, M.D., San Diego, Calif.
 Reis, Walter J., M.D., Pittsburgh, Pa.
 Rosalsky, Leonard, M.D., Los Angeles, Calif.
 St. John, Robert, M.D., Mayview, Pa.
 Shapiro, Arthur K., M.D., New York, N. Y.

Shapiro, Sumner L., M.D., Canoga Park, Calif.
 Sherman, Alan M., M.D., Menlo Park, Calif.
 Shupp, David F., M.D., Sausalito, Calif.
 Sidorowicz, Antonina Julia, M.B., Medical Lake, Wash.
 Siegel, Leonard, M.D., New York, N. Y.
 Simon, Justin, M.D., San Francisco, Calif.
 Solomon, George Freeman, M.D., San Francisco, Calif.
 Stross, Lawrence, M.D., Topeka, Kan.
 Sweeney, George H., M.D., Auburn, Calif.
 Thomas, Albert G., M.D., Covina, Calif.
 Thum, Lawrence Charles, M.D., New York, N. Y.
 Trapnell, Richard H., M.D., San Francisco, Calif.
 Vitols, Mintauts Mickey, M.D., Goldsboro, N. C.
 Weinstein, Morton Raymond, M.D., San Francisco, Calif.
 White, Reginald Pace, M.D., Whitfield, Miss.
 Willer, Lee H., M.D., Chestnut Hill, Mass.
 Wilson, Donald Perdit, M.D., Napa, Calif.
 Wirth, Irwin, M.D., Seattle, Wash.

Davis, Edward H., M.D., Los Angeles, Calif.
 (Certified in Supplementary Psychiatry)

NEUROLOGY

Benson, David Frank, M.D., Eugene, Ore.
 Calverley, John Robert, M.D., San Antonio, Tex.
 Decker, John Barry, M.D., San Francisco, Calif.
 Duvoisin, Roger C., M.D., Gladstone, N. J.
 Engel, William King, M.D., Bethesda, Md.
 Flaherty, Neil Francis, M.D., Atheron, Calif.
 Gilles, Floyd Harry, M.D., Baltimore, Md.
 Hauser, Harris Milton, M.D., San Antonio, Tex.
 Karnes, William E., M.D., Travis AFB, Calif.
 Liske, Edward A., Jr., M.D., Madison, Wis.
 Mackey, Edmund Anthony, M.D., New York, N. Y.
 Mavor, Huntington, M.D., Salt Lake City, Utah
 O'Reilly, Sean, M.D., San Francisco, Calif.
 Posner, Jerome Beebe, M.D., Seattle, Wash.
 Toglia, Joseph U., M.D., Houston, Tex.
 Waltz, Arthur Gerald, M.D., Rochester, Minn.

Lachman, Jordan H., M.D., New York, N. Y.
 (Certified in Supplementary Neurology)

FOURTH WORLD CONGRESS OF CARDIOLOGY.

The Congress will be held in Mexico City, October 7-13, 1962. Contributions are invited from cardiologists who would like to participate in this fourth World Congress. Papers should be presented through your

national Cardiological Society. The official languages are Spanish, French, and English.

Registration Fee: Active members—\$40.00, Associates members—\$20.00.

Further information may be obtained through the Secretariat of the Congress, Avenida Cuauhtémoc 300, México 7, D.F. Hotel reservations may also be made through the Secretariat.

CONGRESS OF SCIENTISTS ON SURVIVAL (S.O.S.).—This scientific group was organized in New York City in November '61, and the first National Conference will be held June 15-17, '62 at the Biltmore Hotel. Professor Chauncey Leake, immediate past president of the American Association for the Advancement of Science, will serve as Conference Chairman. More than 200 distinguished scientists have been invited to participate. The physical, social and psychological consequences of the arms race, problems of disarmament, legal and political obstacles to the preservation of peace, and prejudices that obstruct international understanding will be topics dealt with.

Many distinguished scientists and scientific and educational bodies and Council members of the A.A.A.S. are assisting in the Conference.

For further information write to Dr. Harry H. Lerner, Executive Director, 51 E. 90th Street, New York City.

ANNUAL INDEX

This periodical is indexed alphabetically under both Subject and Author entries.

In searching for a specific article, the Author entry should be consulted if the name of the author is known, since the complete bibliographical reference is to be found only after the author's name. When there are two or more authors for an article the complete entry appears only under the name of the first author. Under the names of each of the joint authors a cross reference is made to the original author entry.

The same applies to book reviews, a complete title of the book listed under the author's name in the list entitled Book Reviews in the Subject Index.

Titles under the Subject Index are often inverted or shortened, and when there are two or more authors, the name of only the first is shown. For the complete author reference, the Author Index should be consulted. The Subject Index covers original articles, biographical and historical materials, book reviews, in memoriams, and editorial comments.

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BOOK REVIEWS

PROGRESS IN NEUROLOGY AND PSYCHIATRY,
Vol. XV. By E. A. Spiegel. (New York:
Grune & Stratton, 1960, pp. 619. \$12.50.)

The fifteenth annual review in this series presents a comprehensive summary prepared by 59 contributors and is a distillation of progress in the fields of basic and clinical neurology, neurosurgery and psychiatry. Reference is made to more than 4400 publications. The practice is continued of reviewing some areas biennially. In this volume, these areas are the electrophysiological aspects of general neurophysiology, the vascular system and shock treatment. The high standard of the annual series is maintained.

STANLEY E. GREBEN, M.D.,
University of Toronto.

THE MIND OF THE MURDERER. By Manfred S. Guttmacher, M.D. The 1958 Isaac Ray Lectures. (New York: Farrar, Straus and Girard, 1960, pp. 244. \$4.50.)

Murder is an important cause of death in the United States. We psychiatrists are supposed to understand the vagaries of the mind, but we do not seem to have travelled very far either in understanding the mind of the murderer or in reducing the murder rate. In the first of his Isaac Ray Lectures, Guttmacher tackles this problem. He classifies murderers into several large psychiatric groups: sadists, alcoholics, vengeful people, schizophrenics, those with temporary psychotic outbreaks, and "the individuals with no marked psychopathology." (He also says, right on page 79, that "the slaying of women by their husbands is a common phenomenon." I hope he is using an uncommon definition of "common.") The lecture closes with an interesting and usable account of the role of narcotizing drugs in the examination of murderers.

The other two lectures have no particular relation to the title of the book—but they are interesting presentations. One deals with expert testimony, the other with the patient's right to secrecy. The short (35-page) lecture on expert testimony reviews the perplexing problem of how to give the jury the benefit of an expert psychiatric adviser without, on the one hand, developing a corps of medical partisans, and without, on the other hand, having judges and jury surrender their function to the whims of a single and very human expert.

Particularly thought-provoking is the final

lecture on confidentiality in doctor-patient relationships. Many physicians take the simple position that all doctor-patient communications should be privileged, but Dr. Guttmacher has a better-rounded and more three-dimensional view. In Maryland such communications are not privileged and, he writes "In private practice, I have never been hampered by the fact that Maryland does not have physician-patient privilege." He does not favor a blanket privilege for all doctors, but he does suggest that, by its nature, the psychiatrist-patient relationship needs some protection against compulsory exposure. However, he recognizes (as many less sophisticated doctors do not) that there is sometimes a duty of disclosure as well as the duty of remaining mute.

The book is written with grace and informality leavened with wit and wisdom.

HENRY A. DAVIDSON, M.D.,
Cedar Grove, N. J.

LIVING FREE. By Joy Adamson. (New York: Harcourt, Brace & World, 1961, pp. 161. \$5.95.)

In *Born Free* Joy Adamson told the story of Elsa the lioness that she and her husband George had raised from infancy and between whom a most devoted affection developed. In the present volume Joy Adamson continues the story of Elsa and her three cubs. In spite of the usual predictions that after the birth of her cubs the lioness would revert to the ways of the wild Elsa continued as affectionate as ever toward her human friends, and brought her cubs over into the human world to show them, too, that human beings could really behave as good lions do.

Mrs. Adamson's two books should do a great deal toward breaking down the barriers between the "animal" and "human" worlds. For too long we have been separated and alienated from the non-human world, even though the domestication of some animals is now about ten thousand years old. The myth of the "beast" has been very damaging and impoverishing to the human spirit. It is to be hoped that Mrs. Adamson's books will help humanity to arrive at a better understanding of its kinship with the remainder of animated nature. In any event, her books are a delight, in addition to constituting a substantial contribution to the science of ethology.

ASHLEY MONTAGU, Ph.D.,
Princeton, N. J.

IN MEMORIAM

HAROLD G. WOLFF, M.D.
(1898-1962)

Harold G. Wolff, Professor of Neurology and Associate Professor of Psychiatry at Cornell University Medical College died at the age of 63 on February 21, 1962 after a brief illness.

I met him in 1929 at the Henry Phipps Psychiatric Clinic where, under Adolf Meyer, he spent two years studying clinical psychiatry and research methods in psychopathology. He was a very active man, sincere in his work and in every task he undertook. He had a searching scientific curiosity combined with an ability to sift essentials and formulate them succinctly. He had deep sympathy with his patients and gave his time to them unstintingly, never allowing his research interests to interfere with his high concept of a physician. In social contact he was charming, with a pleasant sense of humor, interested in the broad cultural aspects of our times and in those of the past in literature and in art. These features made him one of the outstanding investigators of his period in the combined fields of neurology and psychiatry.

After receiving his medical degree from Harvard Medical School he devoted himself to neurology. His first investigations dealt with headache and migraine, and later with the broader field of pain. This research interest remained important during his entire academic life. Another aspect of his scientific interest was his study of the influence of the patient's personality on neurological disorders, soon including the relationship of all somatic and psychological functions in illness and health. In 1939 he saw, in the

medical outpatient department, a patient with a gastric fistula which permitted the direct observation of the gastric mucosa. He employed this patient as a *Dreier* in his laboratories in the Payne Whitney Psychiatric Clinic. Daily observations of the gastric functioning under various stress-situations led to a valuable increase in our knowledge of peptic ulcer and gastric neurosis. Later he investigated the relation of various life situations and related emotional reactions to digestive, nasal, respiratory, circulatory and genital functions. All these studies were done with meticulous observation and under the best planned experimental conditions possible.

In the last 10 years Dr. Wolff had become increasingly preoccupied with the need to investigate the manner in which man's reaction to all aspects of his environment affects his health. He developed a broadly conceived study of human health and the ecology of man. His group of able co-workers included internists, psychiatrists, psychologists, and cultural anthropologists. Many valuable studies from this group contributed to our knowledge of psychological, social and cultural factors which are closely related to health.

Harold Wolff was a great teacher of undergraduate and graduate students through his unusual gifts of expressing himself, stimulating questions and the need to search for answers and test hypotheses most critically. Above all, it was his personality which made him the admired leader in his fields of neurology and psychiatry.

Oskar Diethelm, M.D.

